



May 2013

DOD BUSINESS SYSTEMS MODERNIZATION

Further Actions
Needed to Address
Challenges and
Improve
Accountability

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GAO Highlights

Highlights of [GAO-13-557](#), a report to congressional committees

Why GAO Did This Study

GAO designated DOD's multibillion dollar business systems modernization program as high risk in 1995, and, since then, has provided a series of recommendations aimed at strengthening DOD's institutional approach to modernization and reducing the risk associated with key investments. The act requires the department to report on actions taken relative to its business systems modernization efforts and GAO to assess DOD's actions to comply with the act. In evaluating DOD's compliance, GAO analyzed, for example, the latest version of the business enterprise architecture and enterprise transition plan, investment management policies and procedures, and certification actions for its business system investments.

What GAO Recommends

GAO is making recommendations to help ensure that the department's modernization program is fully compliant with provisions of the act and to improve the department's architecture, transition plan, and business system investment management and human capital management within the Office of the Deputy Chief Management Officer. DOD concurred with two recommendations, partially concurred with three, and did not concur with three. GAO continues to believe its recommendations are warranted given the department's need to more effectively manage its billions of dollars of business system investments and minimize or eliminate system overlap and duplication as appropriate.

View [GAO-13-557](#). For more information, contact Valerie C. Melvin at (202) 512-6304 or melvinv@gao.gov.

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DOD BUSINESS SYSTEMS MODERNIZATION

Further Actions Needed to Address Challenges and Improve Accountability

What GAO Found

The Department of Defense (DOD) continues efforts to establish a business enterprise architecture (a modernization blueprint) and transition plan and modernize its business systems and processes, in compliance with key provisions of the *Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005* and amendments. Nonetheless, long-standing challenges remain. The following table reflects the status of DOD's actions to fulfill selected requirements of the act.

Act's requirements	Status of DOD actions
Develop a business enterprise architecture	DOD continues to develop content for its business enterprise architecture, such as business rules, and is proceeding with efforts to extend the architecture to its components. However, even though DOD has spent more than 10 years and at least \$379 million on its business enterprise architecture, its ability to use the architecture to guide and constrain investments has been limited by, among other things, the lack of a detailed plan.
Develop an enterprise transition plan	The department's latest version of its transition plan included data on more than 1,200 covered defense business systems; however, important content, such as time-phased milestones and performance measures, is still needed to address the act's requirements.
Establish an investment approval and accountability structure along with an investment review process	DOD has taken steps to establish a portfolio-based approach to certifying defense business systems, including the establishment of a corporate-level board to oversee the approach and guidance for selecting, controlling, and evaluating the investment portfolio. However, it has yet to fully establish the foundation for its new portfolio-level investment management process or the criteria and procedures for making portfolio-based investment decisions.
Certify any business system program costing in excess of \$1 million as compliant with the business enterprise architecture and as having undertaken appropriate business process reengineering	DOD's portfolio-based investment approach included reviewing and certifying more than 1,200 business systems for fiscal year 2013, totaling about \$6.8 billion in funding. However, while DOD continues to perform compliance assertions, it has not ensured the accuracy of business enterprise architecture alignment through validation of individual investments. Further, appropriate business process reengineering assertions were not completed and the associated results and outcomes have yet to be reported.

Source: GAO analysis of DOD data.

In addition, the Office of the Deputy Chief Management Officer has yet to determine and follow a strategic approach to managing its human capital needs, thus limiting its ability to, among other things, effectively address the act's requirements. Collectively, these limitations put the billions of dollars spent annually on approximately 2,100 business system investments that support DOD functions at risk. GAO's previous recommendations to the department have been aimed at accomplishing these and other activities related to the business systems modernization. However, to date, the department has not implemented 29 of the 63 recommendations that GAO has made in these areas.

According to DOD officials, recent turnover, changes to the act's requirements significantly expanding the number of systems subject to certification, and the short time frame for implementing the new investment review process contributed to the aforementioned weaknesses. Until DOD implements GAO recommendations and addresses the weaknesses described in this report, it will be challenged in its ability to manage the billions of dollars invested annually in modernizing its business system investments.

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Abbreviations

ACART	Architecture Compliance and Requirements Traceability
AF-IPPS	Air Force Integrated Personnel and Pay System
BPR	business process reengineering
BEA	business enterprise architecture
DITPR	Defense Information Technology Portfolio Repository
DOD	Department of Defense
iEHR	Integrated Electronic Health Record
IPPS-A	Integrated Personnel and Pay System – Army
IPPS-N	Integrated Personnel and Pay System – Navy
IRB	investment review board
IT	information technology
ITIM	Information Technology Investment Management
NDAA	National Defense Authorization Act
OMB	Office of Management and Budget
SNAP-IT	Select and Native Programming Data Input System— Information Technology

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May 17, 2013

Congressional Committees

For decades, the Department of Defense (DOD) has been challenged in modernizing its business systems. In 1995, we designated the department's business systems modernization program as high risk because of its vulnerability to fraud, waste, abuse, and mismanagement, and because of missed opportunities to achieve greater efficiencies; and we continue to designate it as such today.¹ In addition, we have reported² that significant potential exists for identifying and avoiding costs associated with duplicative functionality across DOD business system investments, which includes approximately 2,100 systems.³ DOD's business systems include those for personnel, financial management, healthcare, and logistics, and cost the department billions of dollars each year.

Since designating this area as high risk in 1995, we have made a series of recommendations aimed at strengthening DOD's institutional approach

¹GAO, *High-Risk Series: An Update*, [GAO-13-283](#) (Washington, D.C.: February 2013).

²GAO, *Opportunities to Reduce Potential Duplication in Government Programs, Save Tax Dollars, and Enhance Revenue*, [GAO-11-318SP](#) (Washington, D.C.: Mar. 1, 2011); *Follow-up on 2011 Report: Status of Actions Taken to Reduce Duplication, Overlap, and Fragmentation, Save Tax Dollars, and Enhance Revenue*, [GAO-12-453SP](#) (Washington, D.C.: Feb. 28, 2012); and [GAO-13-283](#).

³Defense Information Technology Portfolio Repository dated March 22, 2013.

to modernization and reducing the risk associated with key investments.⁴ Further, Congress included provisions in the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 (NDAA)⁵ as amended, that were consistent with our recommendations. Specifically, section 332 of the act, as amended, requires the department to, among other things, (1) develop a business enterprise architecture (BEA) to cover all defense business systems, (2) develop a transition plan for implementing the architecture, (3) identify systems information in its annual budget submission, (4) establish a systems investment approval and accountability structure along with an investment review process, and (5) certify and approve any business system program costing in excess of \$1 million. The act directs the Secretary of Defense to submit an annual report to the congressional defense committees on DOD's compliance with certain requirements of the NDAA not later than March 15 of each year, through 2016.

The act directed us to report to these congressional committees—within 60 days of DOD's report submission—an assessment of the department's actions to comply with the requirements of the act. Accordingly, our objective was to assess the actions by DOD to comply with the act.

⁴GAO, *DOD Business Systems Modernization: Long-standing Weaknesses in Enterprise Architecture Development Need to Be Addressed*, [GAO-05-702](#) (Washington, D.C.: July 22, 2005); *DOD Business Systems Modernization: Billions Being Invested without Adequate Oversight*, [GAO-05-381](#) (Washington, D.C.: Apr. 29, 2005); *DOD Business Systems Modernization: Limited Progress in Development of Business Enterprise Architecture and Oversight of Information Technology Investments*, [GAO-04-731R](#) (Washington, D.C.: May 17, 2004); *DOD Business Systems Modernization: Important Progress Made to Develop Business Enterprise Architecture, but Much Work Remains*, [GAO-03-1018](#) (Washington, D.C.: Sept. 19, 2003); *Business Systems Modernization: Summary of GAO's Assessment of the Department of Defense's Initial Business Enterprise Architecture*, [GAO-03-877R](#) (Washington, D.C.: July 7, 2003); *Information Technology: Observations on Department of Defense's Draft Enterprise Architecture*, [GAO-03-571R](#) (Washington, D.C.: Mar. 28, 2003); *DOD Business Systems Modernization: Improvements to Enterprise Architecture Development and Implementation Efforts Needed*, [GAO-03-458](#) (Washington, D.C.: Feb. 28, 2003); and *Information Technology: Architecture Needed to Guide Modernization of DOD's Financial Operations*, [GAO-01-525](#) (Washington, D.C.: May 17, 2001).

⁵Pub. L. No. 108-375, § 332, 118 Stat. 1811, 1851-1856 (2004), as amended by the NDAA for Fiscal Year 2013, Pub. L. No. 112-239, 126 Stat. 1632 (2012), the NDAA for Fiscal Year 2012, Pub. L. No. 112-81, 125 Stat. 1298 (2011), and the NDAA for Fiscal Year 2010, Pub. L. No. 111-84, 123 Stat. 2190 (2009) (codified in part at 10 U.S.C. § 2222. Hereafter, we refer to the provisions of 10 U.S.C. § 2222, including its amendments, as the NDAA or 'the act.').

To accomplish the objective, we reviewed and analyzed the latest version of DOD's BEA, enterprise transition plan, and investment management policies and procedures, using our prior reports as a baseline.⁶ To assess the system information in the budget submission, we analyzed and compared information contained in the department's system that is used to prepare its budget submission with information in the department's authoritative business systems inventory. To address the investment management provisions of the act, we reviewed the department's report to Congress, which was submitted on March 20, 2013, and its associated documentation. We also reviewed the documentation used to support BEA and business process reengineering compliance assertions for fiscal year 2013 certifications for four case studies—Air Force Integrated Personnel and Pay System (AF-IPPS), Integrated Personnel and Pay System-Navy (IPPS-N), Integrated Personnel and Pay System-Army (IPPS-A), and the Integrated Electronic Health Record system (iEHR)—and compared them to DOD's BEA and business process reengineering guidance and our business process reengineering assessment guide. In addition, we reviewed our guidance and reports on federal agencies' workforce planning and human capital management efforts to determine the extent to which the Office of the Deputy Chief Management Officer had implemented a strategic approach to human capital management. We also analyzed documentation relative to corrective actions taken and planned on our prior open recommendations.

We conducted this performance audit at DOD and military department offices from October 2012 to May 2013, in accordance with generally accepted government auditing standards. Those standards require that

⁶GAO, *DOD Business Systems Modernization: Governance Mechanisms for Implementing Management Controls Need to be Implemented*, [GAO-12-685](#) (Washington, D.C.: June 1, 2012); GAO, *Department of Defense: Further Actions Needed to Institutionalize Key Business System Modernization Management Controls*, [GAO-11-684](#) (Washington, D.C.: June 29, 2011); *Business Systems Modernization: Scope and Content of DOD's Congressional Report and Executive Oversight of Investments Need to Improve*, [GAO-10-663](#) (Washington, D.C.: May 24, 2010); *DOD Business Systems Modernization: Recent Slowdown in Institutionalizing Key Management Controls Needs to Be Addressed*, [GAO-09-586](#) (Washington, D.C.: May 18, 2009); *DOD Business Systems Modernization: Military Departments Need to Strengthen Management of Enterprise Architecture Programs*, [GAO-08-519](#) (Washington, D.C.: May 12, 2008); *Business Systems Modernization: Department of the Navy Needs to Establish Management Structure and Fully Define Policies and Procedures for Institutionally Managing Investments*, [GAO-08-53](#) (Washington, D.C.: Oct. 31, 2007); and *Business Systems Modernization: Air Force Needs to Fully Define Policies and Procedures for Institutionally Managing Investments*, [GAO-08-52](#) (Washington, D.C.: Oct. 31, 2007).

we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. Additional details on our objective, scope, and methodology are contained in appendix I.

Background

DOD is one of the largest and most complex organizations in the world. In support of its military operations, the department performs an assortment of interrelated and interdependent business functions, such as logistics management, procurement, health care management, and financial management. Yet, we have previously reported that the DOD systems environment that supports these business functions is overly complex and error prone, and is characterized by (1) little standardization across the department, (2) multiple systems performing the same tasks, (3) the same data stored in multiple systems, and (4) the need for data to be entered manually into multiple systems.⁷ For fiscal year 2013, the department requested about \$6.3 billion for its business system investments and about \$16.4 billion for its IT infrastructure investments.⁸ According to the department's systems inventory,⁹ its environment is composed of approximately 2,100 business systems, including 223 for acquisition, 9 for defense security enterprise, 8 for enterprise IT infrastructure, 285 for financial management, 675 for human resources management, 265 for installations and environment, 653 for logistics and materiel readiness, and 10 for security cooperation.

DOD currently bears responsibility, in whole or in part, for 15 of the 30 programs across the federal government that we have designated as high risk.¹⁰ Seven of these areas are specific to the department,¹¹ and eight

⁷GAO, *DOD Financial Management: Implementation Weaknesses in Army and Air Force Business Systems Could Jeopardize DOD's Auditability Goals*, [GAO-12-134](#) (Washington, D.C.: Feb. 28, 2012).

⁸The DOD IT infrastructure segments account for all business and mission infrastructure. Data from the department's fiscal year 2013 budget request is presented here because DOD did not issue its detailed fiscal year 2014 budget request for IT systems in time to be included in this report.

⁹Defense Information Technology Portfolio Repository dated March 22, 2013.

¹⁰[GAO-13-283](#).

other high-risk areas are shared with other federal agencies.¹² Collectively, these high-risk areas relate to DOD's major business operations that are inextricably linked to the department's ability to perform its overall mission and directly affect the readiness and capabilities of U.S. military forces and can affect the success of a mission. In particular, the department's nonintegrated and duplicative systems impair its ability to combat fraud, waste, and abuse.¹³ As such, DOD's business systems modernization is one of the department's specific high-risk areas and is essential for addressing many of the department's other high-risk areas. For example, modernized business systems are integral to the department's efforts to address its financial, supply chain, and information security management high-risk areas.

Summary of NDAA Requirements

Congress included provisions in the NDAA, as amended, that are aimed at ensuring DOD's development of a well-defined BEA and associated enterprise transition plan, as well as the establishment and implementation of effective investment management structures and processes.¹⁴ The act requires DOD to, among other things,

- develop a BEA that covers all defense business systems,
- develop an enterprise transition plan for implementing the architecture,
- identify systems information in DOD's annual budget submissions,

¹¹These seven high-risk areas include DOD's overall approach to business transformation, business systems modernization, contract management, financial management, supply chain management, support infrastructure management, and weapon systems acquisition.

¹²The eight governmentwide high-risk areas include better managing climate change risks, disability programs, ensuring the effective protection of technologies critical to U.S. national security interests, information systems and critical infrastructure, information sharing for homeland security, human capital, mitigating gaps in weather satellite data, and real property.

¹³GAO, *DOD Business Systems Modernization: Planned Investment in Navy Program to Create Cashless Shipboard Environment Needs to Be Justified and Better Managed*, [GAO-08-922](#) (Washington, D.C.: Sept. 8, 2008); *DOD Travel Cards: Control Weaknesses Resulted in Millions of Dollars of Improper Payments*, [GAO-04-576](#) (Washington, D.C.: June 9, 2004); *Military Pay: Army National Guard Personnel Mobilized to Active Duty Experienced Significant Pay Problems*, [GAO-04-89](#) (Washington, D.C.: Nov. 13, 2003); and *Defense Inventory: Opportunities Exist to Improve Spare Parts Support Aboard Deployed Navy Ships*, [GAO-03-887](#) (Washington, D.C.: Aug. 29, 2003).

¹⁴10 U.S.C. § 2222.

-
- establish an investment approval and accountability structure along with an investment review process, and
 - not obligate appropriated funds for a defense business system program with a total cost of more than \$1 million unless the approval authority certifies that the business system program meets specified conditions.¹⁵

The act also requires that the Secretary of Defense annually submit to the congressional defense committees a report on the department's compliance with these provisions. DOD submitted its annual report to Congress in March 2013, describing steps taken, under way, and planned to address the act's requirements.

DOD's Approach to Business Systems Modernization

The department's approach to modernizing its business systems environment, which is part of DOD's overall effort to transform its business operations, includes reengineering the business processes supported by its defense business systems, developing and using a BEA and associated enterprise transition plan, and improving business systems investment management. These efforts are to be guided by DOD's Chief Management Officer and Deputy Chief Management Officer. Specifically, the Chief Management Officer's responsibilities include developing and maintaining a departmentwide strategic plan for business reform and establishing performance goals and measures for improving and evaluating overall economy, efficiency, and effectiveness, and monitoring and measuring the progress of the department. The Deputy Chief Management Officer's responsibilities include recommending to the Chief Management Officer methodologies and measurement criteria to better synchronize, integrate, and coordinate the business operations to ensure alignment in support of the warfighting mission and developing

¹⁵The act (10 U.S.C. § 2222(a)) requires the appropriate precertification authority to determine that a defense business system modernization program (1) (a) is in compliance with the enterprise architecture and (b) has undertaken appropriate business process reengineering efforts; (2) is necessary to achieve a critical national security capability or address a critical requirement in an area such as safety or security; or (3) is necessary to prevent a significant adverse effect on a project that is needed to achieve an essential capability, taking into consideration the alternative solutions for preventing such an adverse effect. The NDAA for fiscal year 2012 requires that the certification and approval requirements apply to all business systems programs that are expected to cost more than \$1 million over the period of the current Future-Years Defense Program, which is the department's financial plan over a 6-year period. Previously, the certification requirement only applied to business system modernizations with a total cost in excess of \$1 million.

and maintaining the department’s enterprise architecture for its business mission area.¹⁶

DOD has assigned roles and responsibilities to various governance entities and positions related to business systems modernization. For example, the Deputy’s Management Action Group is a senior-level forum that meets several times a month to discuss departmentwide management issues, including business-related topics. This group is to convene as the Defense Business Systems Management Committee when it reviews defense business system portfolios.¹⁷ Table 1 describes selected roles and responsibilities and composition of key governance entities and positions related to business systems modernization.

Table 1: DOD Business Systems Modernization Governance Entities’ Selected Roles, Responsibilities, and Composition

Entity	Roles and responsibilities	Composition
Deputy’s Management Action Group/Defense Business Systems Management Committee	<p>Provide strategic direction and plans for the business mission area in coordination with the warfighting and enterprise information environment mission areas.^a</p> <p>Recommend policies and procedures required to integrate DOD business transformation and attain cross-department, end-to-end interoperability of business systems and processes.</p> <p>Review defense business system portfolios.</p> <p>Serve as approval authority for business system investments greater than \$1 million.</p> <p>Establish policies and approve the business mission area strategic plan, the enterprise transition plan for implementation of business systems modernization, and the BEA.</p>	<p>Meets at the discretion of the Deputy Secretary of Defense and is co-chaired by the Vice Chairman of the Joint Chiefs of Staff. Includes senior leadership in the Office of the Secretary of Defense, as appropriate, such as the Deputy Chief Management Officer and the DOD Chief Information Officer. Also includes the military department chief management officers, the heads of select defense agencies, and participation by other senior management, including from the Joint Chiefs of Staff and the U.S. Transportation Command.</p>

¹⁶According to DOD officials, the business mission area is responsible for ensuring that capabilities, resources, and materiel are reliably delivered to the warfighter. Specifically, the business mission area addresses functional areas such as real property and human resources management.

¹⁷The Defense Business Systems Management Committee was established under 10 U.S.C. §186, which requires the department to set up a committee to review and approve major updates of the defense BEA and to ensure that the obligation of funds for defense systems modernization is consistent with the criteria set out in 10 U.S.C. § 2222.

Entity	Roles and responsibilities	Composition
Defense Business Council/Investment Review Board (IRB)	<p>Oversee DOD's investment management process and conduct portfolio analysis in support of the review and certification of covered defense business system programs.^b</p> <p>Review functional strategies developed by the principal staff assistants and assess component organizational execution plans.</p> <p>Recommend funds certification to the Deputy's Management Action Group/Defense Business Systems Management Committee.</p> <p>Prioritize and approve changes for inclusion in the BEA.</p> <p>Support the development and implementation of the department's end-to-end framework.</p>	<p>Chaired by the DOD Deputy Chief Management Officer. Includes, for example, the principal assistant secretaries of defense (Acquisition, Logistics and Materiel Readiness), Joint Chiefs of Staff, DOD Chief Information Officer, Deputy Comptroller (Programs/Budgets), Chief Operating Officer, and military departments.</p>
Principal Staff Assistants	<p>Senior advisors to the Secretary of Defense that assist in policy development, planning, resource management, fiscal, and program evaluation responsibilities.</p> <p>Develop functional strategies that are to describe business functions, outcomes, measures, and standards for their respective business areas.^c</p>	<p>Composed of the Under Secretaries of Defense for defined functional areas (e.g., Comptroller, Acquisition, Technology, and Logistics, Intelligence, Policy, and Personnel and Readiness; and the DOD Chief Information Officer).</p>
Precertification Authority	<p>Ensure component-level investment review processes integrate with the investment management system.</p> <p>Identify those component systems that require IRB certification and prepare, review, approve, validate, and transfer investment documentation as required.</p> <p>Assess and precertify business process reengineering and architecture compliance for component systems submitted for certification and annual review.</p>	<p>Chief Management Officer from the Air Force, Army, Navy, the director or the equivalent from the defense agencies, and those designated by the DOD Deputy Chief Management Officer as appropriate for programs that support the business processes of more than one military department or defense agency.</p>
Office of the Deputy Chief Management Officer	<p>Provide acquisition oversight and lead IT acquisition reform.</p> <p>Conduct and execute investment portfolio reviews.</p> <p>Reengineer and apply end-to-end processes to improve business operations and support audit readiness.</p> <p>Build and deliver the department's BEA, Strategic Management Plan, and enterprise transition plan.</p> <p>Conduct organizational assessments and develop guidance to set forth the priority performance outcomes for the department.</p> <p>Manage the day-to-day operations of the Office of the Deputy Chief Management Officer (e.g., human resources, budgeting, IT).</p>	<p>Composed of five directorates (Investment and Acquisition Management, Enterprise Business Integration, Technology and Innovation, Planning and Performance Management, and Operations).</p>

Source: GAO analysis of DOD information.

^aDOD has five core business missions: Human Resources Management, Weapon Systems Lifecycle Management, Materiel Supply and Service Management, Real Property and Installations Lifecycle Management and Financial Management.

^bA covered defense business system is any defense business system program that is expected to have a total cost in excess of \$1 million over the period of the current Future-Years Defense Program, which is the department's financial plan over a 6-year period.

Overview of DOD's Tiered Accountability for Business Systems Modernization

^cDOD has eight functional areas: financial management, acquisition, defense security enterprise, logistics and materiel readiness, installations and environment, human resources management, security cooperation, and enterprise IT infrastructure.

Since 2005, DOD has employed a “tiered accountability” approach to business systems modernization. Under this approach, responsibility and accountability for business architectures and systems investment management are assigned to different levels in the department. For example, the Deputy Chief Management Officer is responsible for developing the corporate BEA and the associated enterprise transition plan. Each component is responsible for defining a component-level architecture and transition plan associated with its own tiers of responsibility and for doing so in a manner that is aligned with (i.e., does not violate) the corporate BEA. Similarly, program managers are responsible for developing program-level architectures and plans and for ensuring alignment with the architectures and transition plans above them. This concept is to allow for autonomy while also ensuring linkages and alignment from the program level through the component level to the corporate level.

Consistent with the department's tiered accountability approach, the NDAA for fiscal year 2008 required the secretaries of the military departments to designate the department under secretaries as Chief Management Officers with primary responsibility for business operations.¹⁸ Moreover, the NDAA for fiscal year 2009 required the military departments to establish business transformation offices to assist their chief management officers in the development of their respective comprehensive business transformation plans¹⁹ and to develop well-defined enterprisewide business systems architectures and transition plans.

Overview of DOD's BEA

DOD's BEA is intended to serve as a blueprint for the department's business transformation efforts. In particular, the architecture is to guide and constrain implementation of interoperable defense business systems by, among other things, documenting the department's business functions and activities; the information needed to execute its functions and activities; and the business rules, laws, regulations, and policies

¹⁸Pub. L. No. 110-181, § 904(b), 122 Stat. 3, 274 (Jan. 28, 2008).

¹⁹Pub. L. No. 110-417, § 908, 122 Stat. 4356, 4569 (Oct. 14, 2008).

associated with its business functions and activities. According to DOD, its architecture is being developed using an incremental approach, where each new version of the architecture addresses business mission area gaps or weaknesses based on priorities identified by the department. The department's BEA focuses on documenting information associated with its 15 end-to-end business process areas. (See app. II for a list and description of these end-to-end processes.)

The department considers its current approach to developing the BEA both a "top down" and "bottom-up" approach. Specifically, according to DOD, the architecture focuses on developing content to support investment management and strategic decision making and oversight ("top down") while also responding to department needs associated with supporting system implementation, system integration, and software development ("bottom up").

Consistent with DOD's tiered approach to business systems management, the department's approach to developing its BEA involves the development of a federated enterprise architecture, where member architectures (e.g., Air Force, Army, and Navy) conform to an overarching corporate or parent architecture and utilize a common vocabulary. This approach is to provide governance across all business systems, functions, and activities within the department and improve visibility across DOD's respective efforts. However, we recently reported²⁰ that adopting this approach continued to be a challenge for the department. We noted that while DOD was making improvements, its corporate architecture (i.e., the BEA) had yet to be federated through the development of aligned subordinate architectures for each of the military departments. In this regard, we reported that the military departments had made little or no progress. Moreover, DOD had yet to include common definitions of key terms and concepts to help ensure that these architectures will be properly linked and aligned.

DOD's Approach to Approving Business System Investments

The NDAA, as amended in fiscal year 2012, included significant changes to the requirements for investment review and certification of defense business systems. Specifically, it required DOD to establish a single investment review board chaired by the Deputy Chief Management Officer, an investment management process, and significantly expanded

²⁰GAO-13-283.

the scope of systems requiring certification to include any business system with a total cost of more than \$1 million over the course of the department's Future-Years Defense Program, regardless of type of funding or whether any development or modernization is planned. Previously, the certification requirement only applied to business system modernizations costing more than \$1 million in modernization funds over the life cycle of the modernization. According to DOD documentation, the expanded scope resulted in a portfolio review of more than 1,200 defense business systems, a nearly six-fold increase in the number of systems reviewed previously.

According to DOD, to address the changes, the department implemented an integrated business framework to manage its business systems and issued new guidance for reviewing and certifying business system investments in June 2012. Specifically, the department moved from a system-based to a portfolio-based approach for the annual review and certification of defense business system investments, where investments are grouped into eight functional areas and collectively certified as portfolios within each of the functional areas. According to DOD, the framework enables the alignment of broad departmental strategy and functional business strategy with organizational investment decisions and enables the review and discussion of investments and outcomes by policy and acquisition decision makers.

The June 2012 guidance outlines sequential process steps and their outputs, with each element informing next steps in the process flow. Table 2 shows the steps to be taken in DOD's investment management process.

Table 2: Summary of Steps to Be Taken in DOD’s Investment Management Process

Phase	Summary
Build and review functional strategies	The appropriate business line owners create functional strategies that define the business outcomes, priorities, measures, and standards for a given functional area within the DOD enterprise. After the strategies are reviewed by the department’s Investment Review Board, the Defense Business Council, they are released to the components, becoming the foundation for the remaining phases in the process.
Build and submit organizational execution plans	<p>Each component assembles its defense business system investments into portfolios organized by functional area. Each component then documents how their portfolios align with the functional strategies in organizational execution plans that consist of the following elements:</p> <ul style="list-style-type: none"> • Organizational execution plan brief. The brief demonstrates a portfolio’s alignment to goals and outcomes in the functional strategies, identifies the associated business value of each goal, and shows how goals will be achieved. It also includes a road map and corresponding time line for achieving the desired end state and budget data for each investment. • Validated system data. The components are to ensure that the data in the organizational execution plans are accurate and complete to support certification decisions. As the authoritative sources for DOD business IT investments, data to populate the plans is pulled from the Defense Information Technology Portfolio Repository (DITPR)^a and the Select and Native Programming Data Input System—Information Technology (SNAP-IT).^b • Portfolio certification request memorandum. A Precertification Authority oversees the development of each plan and, through the issuance of a portfolio certification request memorandum, approves each plan for submission to the Defense Business Council.
Analyze portfolios	Completed organizational execution plans are analyzed and validated using four criteria: compliance, strategic alignment, total cost, and utility.
Approve and implement portfolios	The Defense Business Council makes certification recommendations to the Chair, who is responsible for approving business systems certifications. The Chair documents certification decisions in investment decision memorandums that state whether an individual organizational execution plan was certified (i.e., funding has been approved but may be subject to condition(s) that restrict the use of funds, a time line for obligation of funds, or mandatory changes to the portfolio of business systems) or not certified (i.e. funding is not approved due to misalignment with strategic direction, mission needs, or other deficiencies). Expected outcomes of the certification process include updates to the department’s portfolios, Strategic Management Plan, enterprise transition plan, and BEA.

Source: GAO analysis of DOD data.

^aDefense Information Technology Portfolio Repository (DITPR) is the department’s authoritative business systems inventory.

^bSelect and Native Programming Data Input System—Information Technology (SNAP-IT) is the department’s system used to prepare its budget submission.

Prior GAO Reviews of DOD’s Business Systems Modernization

Between 2005 and 2008, we reported that DOD had taken steps to comply with key requirements of the NDAA relative to architecture development, transition plan development, budgetary disclosure, and investment review, and to satisfy relevant systems modernization management guidance. However, each report also concluded that much remained to be accomplished relative to the act’s requirements and

relevant guidance.²¹ We made recommendations to address each of the areas. DOD largely agreed with our recommendations.

However, in May 2009, we reported that the pace of DOD's efforts in defining and implementing key institutional modernization management controls had slowed compared with progress made in each of the previous 4 years, leaving much to be accomplished to fully implement the act's requirements and related guidance.²² In addition, between 2009 and 2012, we found progress had been made, but long-standing challenges we had previously identified remained to be addressed.²³ For example, the department:

- Issued BEA versions that continued to address the act's requirements, but had yet to federate (i.e., extend) the architecture through the development of aligned subordinate architectures for each of the military departments.
- Included a range of information for 1,657 business system investments in its fiscal year 2013 budget submission; however, it did not reflect about 500 business systems, due in part to the lack of a reliable, comprehensive inventory of all defense business systems.
- Had begun to implement a business process reengineering review process but had not yet measured and reported the results.
- Continued to describe certification actions in its annual report for its business system investments as required by the act, but the basis for these actions and subsequent approvals was supported with limited information, such as architectural compliance assertions that were not validated.
- Lacked the full complement of staff it identified as needed to perform business systems modernization responsibilities.

²¹GAO, *DOD Business Systems Modernization: Progress in Establishing Corporate Management Controls Needs to Be Replicated Within Military Departments*, [GAO-08-705](#) (Washington, D.C.: May 15, 2008); *DOD Business Systems Modernization: Progress Continues to Be Made in Establishing Corporate Management Controls, but Further Steps Are Needed*, [GAO-07-733](#) (Washington, D.C.: May 14, 2007); *Business Systems Modernization: DOD Continues to Improve Institutional Approach, but Further Steps Needed*, [GAO-06-658](#) (Washington, D.C.: May 15, 2006); and *DOD Business Systems Modernization: Important Progress Made in Establishing Foundational Architecture Products and Investment Management Practices, but Much Work Remains*, [GAO-06-219](#) (Washington, D.C.: Nov. 23, 2005).

²²[GAO-09-586](#).

²³[GAO-11-684](#), [GAO-10-663](#), and [GAO-09-586](#).

In 2012, we concluded that DOD's progress in addressing the act's requirements, its vision for a federated architecture, and our related recommendations were limited, in part, by continued uncertainty surrounding the department's governance mechanisms, such as roles and responsibilities of key organizations and senior leadership positions. Accordingly, we made recommendations to address the issues identified. DOD partially agreed with our recommendations.

In addition, our most recent high-risk report noted that, while DOD's capability and performance relative to business systems modernization had improved, significant challenges remained.²⁴ For example, the department had not fully defined and established a family of management controls, such as corporate and component business architectures and business system investment management processes. These management controls are vital to ensuring that DOD can effectively and efficiently manage an undertaking with the size, complexity, and significance of its business systems modernization, and minimize the associated risks. Furthermore, we also recently reported²⁵ that, in order to better identify and address potential duplication, DOD needs to develop supporting component architectures, align them with its corporate architecture to complete the federated BEA, and leverage its federated architecture to avoid investments that provide similar, but duplicative, functionality in support of common DOD activities.

Challenges in Addressing Previously Identified Concerns Limit DOD's Ability to Manage Its Business Systems Environment

Over the last year, DOD has taken a number of steps to comply with the provisions of the NDAA and to satisfy relevant system modernization management guidance. In particular, the department released its enterprise transition plan in December 2012, followed by an update to its BEA (version 10.0) in February 2013, and its annual report to Congress in March 2013 describing important steps that have been taken and are planned relative to the act's requirements. However, many of the challenges that we have identified in prior years still need to be addressed. Specifically,

²⁴GAO-13-283.

²⁵http://www.gao.gov/duplication/action_tracker/1712.

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- Even though DOD has spent more than 10 years and at least \$379 million²⁶ on developing its BEA, the department has yet to demonstrate that it is using it to guide and constrain investments as well as develop the steps for federating its architecture throughout the department.
 - The department's latest version of its transition plan lacked important content, such as time-phased milestones, performance measures, and financial resource needs for all business systems.
 - DOD has yet to fully implement its plans and establish a deadline for reconciling and validating the completeness and reliability of information used to prepare its budget submissions, as previously recommended.
 - The department's recently established portfolio-based approach for reviewing and certifying fiscal year 2013 investments lacks an established foundation and criteria and procedures for making investment decisions.
 - DOD has yet to ensure the accuracy of BEA alignment through validation of investments, complete appropriate business process reengineering assertions on all investments, and report on the results of its efforts.
 - The Office of the Deputy Chief Management Officer has yet to follow a strategic approach to human capital management and many of the positions needed to execute the department's responsibilities remain unfilled.
 - The department has not implemented 29 of the 63 recommendations that we have made since 2005 to assist the department in addressing the act's provisions on the architecture, transition plan, budgetary disclosure, and investment management.

BEA Content Continues to Be Developed, but Use of the Architecture Has Been Limited

The act requires DOD to develop a BEA that covers all defense business systems and their related functions and activities. Among other things, the BEA should include data standards, policies, procedures, and performance measures that are to be applied throughout the department and define a target defense business systems computing environment for the department's major business processes. We have also previously

²⁶This figure only reflects data provided by DOD and reported in [GAO-05-702](#) (\$318 million) along with a recent update on costs incurred by the Office of the Deputy Chief Management Officer in developing the BEA between fiscal years 2010 and 2013 (\$61 million). The period of time between our June 2005 report and the beginning of fiscal year 2010 is not accounted for because those costs were incurred by the now-disestablished Business Transformation Agency.

reported²⁷ that the BEA is an important tool for identifying potential overlap and duplication among DOD business systems.

DOD has continued to add needed content to the BEA. Specifically, the department's most recent version (10.0), released in February 2013, focuses on updating content within core business areas such as financial management and human resources management and making improvements to the list of laws, regulations, and policies documented in the BEA. This version includes information aimed at meeting the act's requirements, such as:

- Data standards intended to help provide for a common business language for reporting and sharing financial information among DOD business systems. For example, the current version of the BEA includes data standards associated with DOD's Standard Line of Accounting, such as the Security Cooperation Implementing Agency Code, which the BEA defines as a single character code that identifies the military department or agency that has negotiated or facilitated a foreign military sale on behalf of the U.S. government. Identifying such standards is important for improving interoperability among business systems and enhancing traceability between budgets and expenditures to help achieve audit readiness.
- Business rules to help ensure compliance with the laws, regulations, and policies incorporated in the BEA. For example, one business rule added to inform the development of human resources systems states that the secretary concerned must not pay an inactive National Guard member for inactive duty training. Such business rules help to ensure that, among other things, the department's business systems consistently implement DOD policies and guidance.
- Performance measures that show linkages among DOD activities and metrics from the department's Strategic Management Plan. For example, the BEA shows that the Manage Civilian Staff Acquisition, Manage Labor Relations, and Perform Workforce Analysis business activities are linked to the Strategic Management Plan metric associated with improving the cycle time for hiring external civilians. This is important for meeting the act's requirements associated with performance measures and to enable traceability of BEA content to the Strategic Management Plan.

²⁷ [GAO-11-318SP](#) and [GAO-12-453SP](#).

The NDAA also requires the department to have a BEA that federates to all defense components (e.g., Air Force, Army, and Navy). Toward this end, since 2005,²⁸ DOD has initiated a number of efforts to federate the BEA, including developing a federated strategy, conducting federation pilots, and using semantic web technologies²⁹ to provide visibility across its respective business architecture efforts. Among other things, DOD's approach to federation called for the corporate BEA, each end-to-end business process area (e.g., Procure-to-Pay), and each DOD component (e.g., Air Force, Army, Navy) to establish a common vocabulary and for the programs and initiatives associated with these areas to use this vocabulary when developing their respective system and architecture products. Yet, we have previously reported that the federation strategy lacked adequate details needed to achieve the department's goals and accordingly recommended that the department's efforts to develop the federated BEA be supported by an architecture management plan that incorporated the details needed to execute its Business Mission Area Federation strategy.³⁰

However, according to the Chief Architect, the department's approach to federation is currently being reassessed, adding that future approaches for architecture federation might not involve the use of semantic web technologies. Instead, officials stated that the department is working with its Component Collaboration Forum, which includes representatives from the military departments and defense agencies, to generate recommendations for how to proceed with federating the architecture. Officials from the Office of the Deputy Chief Management Officer added that the department has experienced recent turnover in key positions, which has contributed to the challenges in developing a federated approach for its architecture.

Although the department has spent more than 10 years and at least \$379 million on developing its BEA and has been attempting to extend the BEA to its components since 2005, it has yet to do so. Further, the architecture continues to lack critical content that is needed to achieve the

²⁸[GAO-06-219](#).

²⁹Semantic web technologies include the use of nonproprietary, open standards and protocols to develop DOD architectures to allow users to, among other things, locate and analyze needed architecture information across the department.

³⁰[GAO-07-451](#).

department's vision for an architecture that can be used to guide, constrain, and enable interoperable business systems.

For example:

- Business activities have not been defined at a level that allows for the identification of potential overlap and duplication. For example, while the architecture includes business activities, such as perform reporting,³¹ provide geospatial visualization services,³² and manage environmental liability information,³³ it does not decompose these activities to a lower level (e.g., describe the activities involved in managing geospatial information and services). As a result, programs cannot identify whether they address such lower-level activities and, thereby, provide the department with information that it could use to identify duplicative or overlapping capabilities.
- While the architecture, including the transition plan, includes a listing of target business systems, it has yet to identify target systems applicable to each operational activity. For example, the architecture does not identify any systems that support the perform legal investigation operational activity. In addition, while it identifies families of systems (i.e., groups of similar systems), the architecture has not specified all of the individual systems within each family of systems. Specifically, the BEA identifies the Personnel and Pay Management family of systems, which is a group of systems intended to support many existing personnel and pay processes, but information about specific systems within this group of systems (e.g., the Army and Air Force's Integrated Personnel and Pay Systems) have yet to be defined. Moreover, each of the systems within this family of systems is intended to replace multiple existing systems, which are not identified in the architecture. As a result, the architecture does not include sufficient information to allow the identification of systems that

³¹The perform reporting business activity includes receiving financial and management reporting requirements, preparing the information product, and distributing the finished product to the requestor.

³²The provide geospatial visualization activity manages geospatial IT visualization applications and services for DOD business missions and creates geospatial information products.

³³The manage environment liability information business activity identifies and values environmental liabilities, and prepares environmental liability information for reporting purposes.

might support similar business activities, potential duplication and overlap, or inform decision making about reusing or integrating existing systems.

- While DOD's Strategic Management Plan for fiscal years 2012 and 2013 states that DOD was to have completed mapping its Hire-to-Retire and Procure-to-Pay business processes by the end of fiscal year 2012, the department has not done so. Specifically, while the BEA provides a description of these two end-to-end business processes, their related business capabilities have yet to be defined. For example, business capabilities³⁴ have not yet been defined for the perform manpower planning,³⁵ manage recruiting,³⁶ and manage labor relations³⁷ business activities, which are part of the Hire-to-Retire end-to-end business process. In addition, business capabilities have not yet been defined for the create purchase requisition,³⁸ award procurement instrument,³⁹ and manage disbursements⁴⁰ business activities. Without this information, the department risks not being able to optimize business processes and the systems that support them to reduce business systems spending.

According to the department's Chief Architect, some of the missing detail is not intended to be in the corporate architecture (i.e., BEA). Instead, the

³⁴Among other things, DOD describes capabilities as information that describes the ability to achieve a desired effect under specific standards and conditions through a combination of means and ways to perform a set of tasks. For example, the account for personnel business capability is associated with, among other things, accounting for time, absence, and labor, and performing leave and absence administration.

³⁵The perform manpower planning business subprocess is associated with projecting manpower requirements, identifying the mission list, and developing policy and procedure guidance, to support preparation of the DOD budget, and includes both budgetary and executionary requirements.

³⁶The manage recruiting business subprocess is associated with managing the recruitment process for applicants who apply to the Armed Forces.

³⁷The manage labor relations subprocess is associated with managing the relationship between the agency and its unions and bargaining units.

³⁸The create purchase requisition business subprocess relates to the initiation and management of requests for the purchase of goods and/or services.

³⁹The award procurement instrument business subprocess results from the execution of an approved acquisition/sourcing plan and results in the execution of contractual documentation and the legal obligation of funds.

⁴⁰The manage disbursements business subprocess supports all activities necessary to execute the payment process for transactions that have been authorized for payment.

content should be documented in the component architectures that will align with the corporate architecture as part of the department's approach to federation. However, given that the department is reassessing its approach to federation, it remains unclear as to when and how some of this content will be reflected as part of its federated vision for an architecture that covers all defense business systems and their related functions and activities. Until the department does so, it will be limited in its ability to use the architecture as a tool for managing its business systems investments by, for example, more effectively identifying areas of potential duplication and overlap.

**Enterprise Transition Plan
Content Has Been
Improved, but Is Still
Missing Important Content**

The act further calls for the development of an enterprise transition plan that covers all defense business systems and includes a listing of the

(a) new systems that are expected to be needed to complete the defense BEA, along with each system's

- time-phased milestones,
- performance measures,
- financial resource needs, and
- risks or challenges to integration into the BEA;

(b) legacy systems that will not be part of the defense BEA, together with the schedule for terminating those legacy systems, that provides for reducing the use of these systems in phases; and

(c) legacy systems that will be a part of the target defense business systems computing environment, as well as a strategy for making the modifications to those systems that will be needed to ensure that such systems comply with the defense BEA, including time-phased milestones, performance measures, and financial resource needs.

The department's enterprise transition plan, issued in December 2012, includes more than 1,200 covered defense business systems due to changes in the NDAA for fiscal year 2012. Along with its related documentation, such as the organizational execution plans and the OMB exhibit 300s,⁴¹ the enterprise transition plan includes milestone data, such

⁴¹Each year, agencies submit the exhibit 300 to OMB to justify each request for a major IT investment.

as termination schedule information on legacy systems that will not be part of the defense BEA.

While DOD has begun to improve its enterprise transition plan, improvements are needed to fully address the act's requirements.

- The plan includes acquisition program milestone information (e.g., initial operational capability) in organizational execution plans and the department's functional strategies. However, this documentation does not provide milestones for all business systems expected to be part of the target architecture,⁴² nor does it provide the capability to easily view milestone information that might be contained in other sources, such as the Defense Acquisition Management Information Retrieval system.⁴³ For example, the organizational execution plans do not identify the complete set of individual systems and their associated milestones. In addition, while selected exhibit 300s include information about key system events, such as system start and end dates, these exhibit 300s only capture those business systems that are classified as a major investment and do not reflect the complete set of systems that will be part of the target environment.
- The department's functional strategies include metrics associated with improving each of the functional areas (e.g., financial management), but do not include performance measures for each target business system. According to DOD officials, milestones will be addressed in future versions of the plan through the development of a systems evolution description, known as an SV-8.⁴⁴ Officials from the Office of the Deputy Chief Management Officer also stated that they plan to include acquisition program measures and other related measures in future versions of the plan.
- The plan includes information about fiscal year 2013 funding approved under the department's business system investment review

⁴²DOD considers these systems to be "core" systems. Officials from DOD components designated every defense business system as either a core or legacy system, according to the department's business system investment management guidance. This guidance defines covered legacy systems as those that are to be terminated within 36 months of the date of their certification approval and all other systems are considered core systems.

⁴³The Defense Acquisition Management Information Retrieval system is a DOD initiative that provides enterprise visibility to Acquisition program information.

⁴⁴According to DOD's architecture framework, an SV-8 describes the life cycle of systems and how they change over time. In addition, an SV-8 can be combined with other architecture information to show how an organization's capabilities change over time.

process for each business system expected to be part of the target business architecture. However, the plan does not include information about financial resource needs for each business system. DOD officials stated that future versions of the plan are to include financial information (i.e., financial resource needs) obtained from querying data currently located in the department's data repositories.

- The plan and related documentation do not discuss each system's risks or challenges to integration into the BEA. Instead, DOD officials referred to the constraints and enablers documented in each organizational execution plan. For example, the Department of the Navy's financial management organizational execution plan cited "reaching enterprise-wide agreements on the reduction of multiple and often competing business processes that are counterproductive and ineffective" and the Defense Logistics Agency's organizational execution plan cited "synchronization with other DOD efforts" as a challenge. In addition, the Army's acquisition organizational execution plan cited "end-to-end business process development" as an enabler and the Air Force's acquisition organizational execution plan cited "use of the Defense Information Systems Agency's modern capabilities and enterprise services" as an enabler.⁴⁵ However, these high-level constraints and enablers do not address risks or challenges to integration associated with each system. DOD officials stated that future versions of the plan will include information about integration risks and challenges to integration from investment decision memoranda and future organizational execution plans.
- The plan includes a listing of legacy systems that will not be part of the defense BEA along with the associated termination dates. For example, the plan includes termination dates for 110 legacy systems. However, the plan does not discuss how these systems will be terminated in phases. Instead, it only includes system end dates, which do not reflect a phased approach to termination. DOD officials stated that future versions of the plan are expected to include this information using department and program-level data to identify schedules and dependencies. In addition, termination dates described in the plan are not always accurate. Specifically, 10 legacy systems have termination dates that occur prior to the beginning of fiscal year 2014. DOD officials acknowledged that not all dates are accurate and attributed the inaccuracies to the time required to improve the data

⁴⁵The organizational execution plan refers to, among other things, leveraging common services for identity, security, communication, and workflow.

associated with the large number of new systems subject to the act's requirements. They stated that they are actively working to improve the data and noted that the plan includes notes about data quality, including notes indicating that some life-cycle end dates occur in the past.

According to officials in the Office of the Deputy Chief Management Officer, an internal assessment was conducted in late 2012 to identify gaps in the enterprise transition plan, and efforts are ongoing to develop a plan for what is required to address these gaps and the act's requirements.

In addition to these gaps, the department has also yet to address the act's requirement for including a listing of the legacy systems that will be a part of the target defense business systems computing environment as well as selected information about those systems. More specifically, although DOD's approach to addressing this requirement involves identifying all of the systems considered to be target business systems, the Office of the Deputy Chief Management Officer has only recently (April 2013) defined more detailed expectations for the target defense systems computing environment.⁴⁶ As such, it remains to be seen how this definition will be implemented in a future transition plan. In addition, while DOD does not plan to make modifications to legacy systems that will not be part of the target BEA, the existing enterprise transition plan documentation does not identify a strategy for making the modifications to legacy systems that will be part of the target BEA to ensure that they comply with the defense BEA, including time-phased milestones, performance measures, and financial resource needs. Moreover, regardless of how DOD defines a legacy system, it is important for the department to include information regarding phased terminations of existing systems to help improve planning for the department's future business systems environment.

⁴⁶The April 2013 guidance defines the target business systems computing environment as the "to be" environment consisting of (1) the core covered defense business system programs and related resources which the DOD will use to conduct its major business processes and (2) the supporting enterprise IT infrastructure and related resources, such as networks, communications, enterprise shared services, enterprise information assurance, in the enterprise information environment and other mission areas.

Beyond this, we have previously reported⁴⁷ that the plan did not include information needed to understand the sequencing of systems. To its credit, the department has begun to use a top-down approach for sequencing investments (e.g., using functional strategies to identify strategic initiatives and propose systems transition). However, the planned investments have not been sequenced based on a range of important factors cited in federal guidance, such as governmentwide and agency-specific priorities (e.g., open and transparent government), dependencies among investments, expectations about investment costs and benefits, and emerging and available technological opportunities (e.g., cloud computing).

Officials from the Office of the Deputy Chief Management Officer attributed the gaps in enterprise transition plan content to the significant increase in the number of systems that the act requires to be included in the plan. Specifically, according to the DOD officials, the number of systems subject to the act's requirements increased from 269 systems in the fiscal year 2012 transition plan to more than 1,200 in the fiscal year 2013 plan. They stated that gaps in the plan's existing content will be improved in future versions.

Until the department defines by when and how the enterprise transition plan will include the complete set of required information on the full inventory of investments across the department (and does so in a manner that reflects consideration of the range of variables associated with a well-defined transition plan, such as dependencies among investments), it will not be able to provide the department with a sufficient basis for sequencing business capabilities and system functions to be subsumed by a modern system.

⁴⁷ [GAO-09-586](#).

Plans for Improving the Reliability of Business System Investment Information Are Not Fully Implemented

The NDAA requires that DOD's annual IT budget submission include key information on each business system for which funding is being requested, such as the system's precertification authority and designated senior official, the appropriation type and amount of funds associated with modernization and current services (i.e., operation and maintenance), and the associated Defense Business Systems Management Committee approval decisions.⁴⁸ The budget submission relies on business system investment information (e.g., funds requested, mission area, and system description) that the components entered into the department's system used to prepare its budget submission (SNAP-IT). In accordance with DOD guidance and according to officials in the Office of the DOD Chief Information Officer, the business systems listed in SNAP-IT should match the systems listed in the department's authoritative business systems inventory—Defense Information Technology Portfolio Repository (DITPR). We have previously recommended that the department develop and implement a plan and establish a deadline for reconciling and validating the completeness and reliability of information in its two repositories, and include information on the status of these efforts in the department's annual report in response to the act.⁴⁹

DOD Chief Information Officer officials have reiterated the department's commitment to integrating the two repositories and described steps taken and future steps toward achieving this end. For example, the officials stated that a planned investment portal that is intended to present a unified interface to users for both IT budget and system information is in development. Officials also stated that this new portal is expected to reach a limited operational capability in May 2013 and when planned capabilities are implemented, issues associated with previously reported differences between the number of business systems reflected in the two repositories would have been addressed. In addition, to prepare for the planned integration, DOD officials have described steps it has begun to take to improve the quality of the data in the systems. For example, DOD's March 20 annual report pursuant to the NDAA stated that the Defense Business Council directed precertification authorities to update and validate the authoritative data sources, and specific feedback on data errors was provided to the precertification authorities. In addition, the

⁴⁸Due to ongoing budget negotiations, DOD did not prepare its detailed fiscal year 2014 budget request in time for inclusion in this report.

⁴⁹[GAO-09-586](#) and [GAO-12-685](#).

report stated that a community of interest work group was updating the data collection repositories and removing conflicting data sources. Moreover, DOD has developed detailed plans for the integrated portal that includes, among other things, roles and responsibilities, requirements, a data dictionary, business rules, and implementation time frames for an incremental release, such as achieving full operational capability for its final increment by March 2015. Nevertheless, the officials stated that efforts to implement these planned capabilities for the integrated portal have been impacted by changes in the management structure for DITPR and by requirements to rehost the repository due to a base realignment and closure. As such, it remains unclear as to when DOD will be able to fully implement its plans for having an integrated portal.

Until DOD fully implements its plans and establishes a deadline for completing the repository integration and validating its completeness and reliability, as we have previously recommended, it will not be able to ensure that annual budget submissions and oversight decisions relying on these repositories will be based on complete and accurate information.

Steps to Establish a Portfolio-Based Investment Management Approach Have Begun, but Much Work Remains

The act, as amended, requires DOD to establish an investment approval and accountability structure along with an investment review process. In addressing the act's provisions, DOD has taken steps to establish a portfolio-based approach to certifying defense business systems, including the establishment of a corporate-level Investment Review Board (IRB) to oversee the approach and guidance for selecting, controlling, and evaluating the investment portfolio. However, it has yet to fully establish the foundation for its new portfolio-level investment management process or the criteria and procedures for making portfolio-based investment decisions.

Investment Review Board to Oversee Portfolio-Based Investment Management Process Has Been Established

Section 901 of the NDAA for fiscal year 2012 requires the establishment of a single IRB to oversee the department's investment review process and conduct periodic reviews of all covered defense business systems programs. The act also calls for the IRB to be established by the DOD Deputy Chief Management Officer, with representation from appropriate officials, including the DOD Chief Information Officer and appropriate senior officials for the functions and activities supported by the defense business systems under review. Consistent with the act, our IT

Foundation for Portfolio-Level
Investment Management Has
Yet to Be Fully Established

Investment Management framework⁵⁰ also calls for the establishment of an enterprisewide investment board that is composed of senior executives from IT and business units.

To comply with the new requirements of the act, the department changed its investment management governance structure by establishing an enterprisewide IRB and eliminating the multiple, functionally oriented boards used previously. Specifically, in October 2012, DOD established the Defense Business Council as the department's enterprisewide, single IRB and assigned the council overall responsibility for governing the optimization of DOD's enterprisewide business environment and the improvement of the department's business activities and management structures. In accordance with the NDAA and our investment management framework, the council is chaired by the DOD Deputy Chief Management Officer and includes members such as the Deputy DOD Chief Information Officer, the Assistant Secretary of Defense (Acquisition), the Deputy Under Secretary of Defense (Installations and Environment), the Office of Joint Chiefs of Staff, and representatives from the Air Force, Army, and the Department of the Navy. By establishing an IRB composed of appropriate senior executives, the likelihood of making decisions that reflect the needs of the enterprise is increased.

According to DOD's guidance, the foundation of the new investment management process is the set of six functional strategies that prioritize and identify the enterprise's immediate needs while providing direction for each business area. The guidance requires that the functional strategies demonstrate alignment of goals with enterprisewide business goals identified in DOD's Strategic Management Plan. Other critical elements that must be included are the vision for each business area, the goals that will lead to accomplishment of the vision, and the expected outcomes for each goal. To track progress toward the accomplishment of stated goals and outcomes, the guidance calls for performance measures that include baseline and target measures, and provide a rationale for the identified targets. The completed functional strategies are to inform the

⁵⁰GAO's IT Investment Management framework provides a method for evaluating and assessing how well an agency is selecting and managing its IT resources. The framework, which describes five progressive stages of maturity that an agency can achieve in its investment management capabilities, was developed on the basis of our research into the IT investment management practices of leading private- and public-sector organizations. See GAO, *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*, [GAO-04-394G](#) (Washington, D.C.: March 2004).

components' technology portfolios, provide the context for portfolio-based investment decisions, become the basis for the department's enterprise transition plan, help to expand and refine the department's Strategic Management Plan, and become part of the BEA.

For the fiscal year 2013 certification of defense business systems, six functional strategies that covered seven of DOD's eight functional areas were developed.⁵¹ In accordance with the investment management guidance, each of the six included many of the critical elements called for in the guidance. Specifically,

- Five of the six functional strategies demonstrated linkages to business goals in DOD's Strategic Management Plan, but one did not. As a result, it lacked the direction needed to guide efforts for developing a portfolio that adheres to the strategy's tenets while ensuring the successful execution of the department's mission.
- Each of the six included the vision and goals of the corresponding functional area, but one functional strategy did not include expected outcomes for all functional area goals. Without fully documented outcomes, the department cannot adequately assess progress against goals, take corrective action when needed, and demonstrate tangible improvements.
- Four of the six did not have all performance measures in place for assessing progress toward achieving stated goals. In addition, none of the six included performance measures that reflected all of the key attributes identified in DOD's guidance. Specifically, of the 72 performance measures documented in the functional strategies, none included all of the following: a baseline measure, a target against the baseline, and a rationale for the target. Without these key attributes, the performance measures cannot function as a standard for comparison and provide a clear indication of DOD's progress towards its goals.

According to DOD officials, the functional strategies were not expected to be fully mature for the fiscal year 2013 certification review cycle; instead, initial versions were to highlight areas in which additional work was

⁵¹According to DOD officials, a functional strategy was not created for the department's security cooperation functional area because it does not currently have any defense business systems. Additionally, they determined that it would be more useful to create a single combined strategy for the acquisition functional area and logistics and materiel readiness.

needed and updates would reflect lessons learned as well as departmental priorities, goals, and objectives. For the fiscal year 2014 certification cycle, the six functional strategies were revised. To the department's credit, this resulted in the following improvements:

- All of the six demonstrated linkages to the business goals in DOD's Strategic Management Plan.
- Five of the six had fully documented performance measures and all six identified one or more expected outcome for each functional area goal.

Nevertheless, DOD has not established performance measures in which all key attributes identified in DOD guidance are present and, thus, the department may lack a clear indication of progress toward achieving shared goals. Without fully developed functional strategies that include all of the critical elements identified in DOD's guidance, the fiscal year 2013 certification reviews lacked the foundation necessary for ensuring that sound investment decisions were aligned with enterprisewide goals and priorities. Further, the department's ability to present a complete enterprise business strategy that can be used to update the strategic management and enterprise transition plans as well as the business enterprise architecture may be limited.

Criteria and Procedures for
Making Portfolio-Based
Investment Decisions Have Not
Been Fully Defined

Investment portfolios are integrated, enterprisewide collections of investments that are evaluated and managed collectively based on common criteria. Taking a portfolio perspective enables an organization to consider its investments in a more comprehensive and integrated manner so that, collectively, the investments optimally address the organization's mission, strategic goals, and objectives. Managing IT investments as portfolios also allows an organization to determine its priorities and make decisions about which projects to begin funding and continue to fund based on analyses of the relative organizational value and risks of all projects, including projects that are proposed, under development, and in operation.

Our investment management framework requires that an organization have documented policies and procedures for reviewing, evaluating, and improving portfolio performance, including the use of a predetermined performance threshold for analyzing actual versus expected performance (e.g., more than XX percent over expected cost)—a major factor in defining remedial actions for underperforming investments. Our framework also highlights the importance of examining costs incurred; benefits attained; current schedule; accuracy of project reporting; and

risks that have been mitigated, eliminated, or accepted to date as part of assessing portfolio performance. Altogether, these assessments ensure that the overall portfolio provides the maximum benefits at a desired cost and at an acceptable level of risk.

DOD’s investment management guidance identifies four criteria and specifies the associated assessments that are to be conducted when reviewing and evaluating components’ organizational execution plans in order to make a portfolio-based investment decision. Table 3 provides a summary of the criteria and associated assessments that DOD uses to make a certification decision.

Table 3: Summary of Criteria and Associated Assessments for Making Certification Decisions

Criteria	Assessment
Compliance	The Precertification Authority’s memorandum stating that each applicable defense business system is compliant with the relevant requirements of the NDAA for fiscal year 2012.
Strategic alignment	The degree of alignment to strategic goals and missions documented in the department’s Strategic Management Plan and the functional strategies. The degree to which investments are being managed in accordance with capital planning and investment control practices ^a and DOD’s Better Buying Power guidance. ^b
Utility	The portfolio’s ability to deliver required capabilities for a given function, to demonstrate interoperability with other systems, and to show scalability to support additional users or new features in the future.
Total cost	Cost in the context of the defense business system’s life-cycle phase and the estimated return on investment.

Source: GAO analysis of DOD data.

^aCapital planning and investment control is an IT portfolio-driven management process for ongoing identification, selection, control, and evaluation of investments. The process attempts to link budget activities and agency strategic priorities with achieving specific IT program modernization outcomes.

^bDOD’s Better Buying Power guidance, issued in September 2010, is intended to improve affordability and cost control, competition, and management of services acquisitions, among other things. Among the specific actions called for are increasing competition in services contracting and reducing the use of high-risk contract vehicles.

However, the guidance does not specify a process for conducting an assessment or call for the use of actual versus expected performance data and predetermined thresholds. These thresholds, according to our investment management framework, should be established to evaluate portfolio performance. Without a defined approach that incorporates these practices, the department is limited in its ability to compare investments to one another within and across the functional areas to help ensure that its

collections of investments optimally address the organization's mission and goals.

In addition, the guidance does not call for assessments to be conducted in four key areas identified in our framework: benefits attained; current schedule; accuracy of project reporting; and risks that have been mitigated, eliminated, or accepted to date. The framework stresses that it is important to examine all of these aspects since, among other things, some investments may exceed performance expectations (e.g., delivering at lower cost, in less time, and with better benefits than expected). In these cases, the board may wish to accelerate an investment's funding or schedule, reallocate resources within the overall portfolio, or make some other type of adjustment.

Further, the guidance does not call for the organizational execution plans to include critical information for conducting assessments associated with the strategic alignment, utility, and total cost criteria. More specifically, it does not require the plans to include information on alignment with the capital planning and investment control practices and Better Buying Power guidance; interoperability among systems and system scalability to support additional users or new features in the future; and cost in relationship to return on investment. Without this critical information, the department cannot ensure that certification decisions are being made in accordance with established criteria.

DOD officials stated that, although assessment decisions may appear subjective, the reviews were based on analytics focused on the four criteria and the individual expertise of the business leaders. However, according to our framework, board members should apply their judgment and knowledge to the evaluation of investment data using documented procedures and established criteria.

To its credit, the department issued revised guidance in April 2013 for the fiscal year 2014 certification of defense business systems that is intended to mature the investment management process and reflect lessons learned from the fiscal year 2013 certification process. While it is too soon to evaluate the department's updated approach to business system investment management, we plan to evaluate DOD's progress in defining and implementing its updated investment review processes in our fiscal year 2014 report on defense business systems modernization. As DOD continues to mature its investment management process, it is important that criteria and procedures for portfolio-level management are fully established and that all information needed to conduct portfolio

evaluations is provided in key documents to ensure that its investments are selected and controlled in a manner that best supports its mission needs.

Investment Portfolios
Certified, but Compliance
Assertions Must be
Implemented More
Effectively

The act also requires that, prior to the obligation of funds, investments involving business programs with a total cost in excess of \$1 million over the period of the Future-Years Defense Program, whether appropriated or non-appropriated, be certified to meet specific conditions defined in the act, such as demonstrating compliance with DOD’s BEA and whether appropriate business process reengineering efforts have been undertaken.

DOD’s March 2013 report describes the department’s continuing efforts to improve the efficiency and effectiveness of its business operations through the use of its Integrated Business Framework, actions it will take moving forward related to the evolution of its BEA, and the results of its actions to certify supporting IT investments. Specifically, according to the report, the department received about 1,245 certification requests totaling more than \$7 billion in eight functional areas from 21 DOD components.⁵² Of the 1,245 requests within investment portfolios, the Defense Business Council approved 1,231 requests totaling about \$6.8 billion (see table 4).

Table 4: Certification Summary for Fiscal Year 2013

Functional portfolio	Count of certification requests approved	Sum of certification requests approved
Acquisition	98	\$256,704,000
Defense Security Enterprise	8	\$44,868,000
Enterprise IT Infrastructure	5	\$41,231,000
Financial Management	200	\$785,179,000
Human Resources Management	435	\$2,919,274,000
Installations and Environment	133	\$288,561,000
Logistics and Materiel Readiness	348	\$2,436,253,000
Security Cooperation	4	\$1,564,000
Total	1,231	\$6,773,634,000

Source: DOD’s 2013 Congressional Report on Defense Business Operations.

⁵²According to the March Congressional Report, certification results were reported as of December 3, 2012.

The report notes that the investment review process resulted in the identification of 99 systems that will be terminated within the next 36 months and are not expected to receive budget funding beyond the next 3 years. In addition, investments within portfolios were identified that required further refinement or elimination, which resulted in the denial of more than \$300 million in funding to those investments. According to the annual report supplement, three investment requests were withheld until a later time; seven were not certified; and one was certified but for a smaller amount than was originally requested. The report also includes the status of certifications, such as “certified with tasking action item” or “conditionally certified,” for each business system investment. However, while the report documents the number of certifications, it does not include the relevant information about known weaknesses related to the investment review process and fiscal year 2013 certifications, such as the lack of BEA and business process reengineering-related compliance and the extent to which additional actions were needed to ensure compliance.

Further, although the report states that the Defense Business Council took actions to significantly improve both the visibility and accuracy of its authoritative data, we were unable to verify the number of certifications and the funding amount requested using authoritative data sources, such as component organizational execution plans provided by DOD. For example, while the department reported 1,245 certification requests totaling about \$7.17 billion, we were only able to identify 1,223 requests totaling about \$7.41 billion (a net difference of 22 certification requests and about \$240 million in requested funds). DOD officials noted that certain data fields in the original data sources were incomplete, incorrect, or duplicative when the certification request was submitted. These officials added that the difference occurred because of in-process changes or updates to the original requests. They also stated that extensive manual cleanup efforts have been ongoing since the beginning of the investment review process. Although these data cleanup efforts are ongoing, the officials expected future portfolio reviews to have improved data.

While data cleanup efforts have been significant in the first year of this new investment review process and are an important part of building the department’s baseline portfolios of investments, without providing the full and accurate range of information the department faces increased risk that it will not be able to provide effective oversight over its business systems investments. Further, by not reporting the overall weaknesses associated with the certification activities, the department does not provide the full range of information that is needed to permit meaningful

BEA Compliance Asserted for
Most of the Systems, but
Assertions Continue to Lack
Adequate Validation

and informed congressional oversight of the department's business systems modernization efforts.

Under the act, funds may not be obligated for covered business systems unless the certification requirements with regard to BEA compliance are met. For its fiscal year 2013 certification review, investments were to follow BEA compliance guidance issued in March 2011. This guidance describes an incremental approach to BEA compliance requirements, including key elements needed for asserting architecture compliance,⁵³ such as specific artifacts and definitions for compliance or planned compliance.⁵⁴ Further, we have previously recommended that DOD, among other things, explicitly assign responsibility for validating program BEA compliance assessments.⁵⁵

DOD has certified most, but not all, investments on the basis of architecture compliance. According to DOD, precertification authorities asserted BEA compliance in their respective organizational execution plans for about 89 percent of systems submitted as part of the portfolio certification process. For example, for the four investments that we reviewed,⁵⁶ the military components and the Tricare Management Activity assessed BEA compliance for each investment in accordance with DOD guidance. In addition, the appropriate precertification authorities asserted (via their respective organizational execution plans) whether each system was compliant with DOD's BEA. For example, the precertification authority's request in the Army's organizational execution plan asserted BEA compliance for the Integrated Personnel and Pay System-Army (IPPS-A). As supporting documentation for this assertion, the program

⁵³For fiscal year 2013 certification, investments could assert compliance to BEA 8.0 or 9.0.

⁵⁴Generally, if a defense business system has not yet deployed any capability into an operational environment, an investment is asserted as being "planned compliant."

⁵⁵GAO, *DOD Business Systems Modernization: Key Navy Programs' Compliance with DOD's Federated Business Enterprise Architecture Needs to Be Adequately Demonstrated*, [GAO-08-972](#) (Washington, D.C.: Aug 7, 2008).

⁵⁶See app. I for details on our methodology related to four case studies, which looked at documentation used to support BEA and business process reengineering compliance assertions for fiscal year 2013 certifications related to Air Force-Integrated Personnel and Pay System (AF-IPPS), Integrated Personnel and Pay System-Navy (IPPS-N), Integrated Personnel and Pay System-Army (IPPS-A), and the Integrated Electronic Health Record system (iEHR).

provided a compliance dashboard to document BEA alignment, consistent with DOD guidance, and architecture artifacts demonstrating alignment to specific architectural content, such as operational activities described in the BEA.

However, the remaining 11 percent of systems were identified as not being in compliance with the architecture. DOD officials stated that no system was denied certification due to the lack of BEA compliance; instead, the Deputy Chief Management Officer included an action item in all investment decision memoranda tasking components to document compliance or a plan to achieve BEA compliance for any business systems identified by the precertification authority as not being in compliance. However, while the department has asserted compliance for many business systems, it has yet to validate these assertions, as we have previously recommended.

Office of the Deputy Chief Management Officer officials said that the large increase in the number of systems to be reviewed made it challenging to complete a review for all the systems. In addition, the short time frame for implementing the new investment review process resulted in the need to include the action items. They also stated that they are tracking responses to these actions for each of the portfolios and expect the assertions for fiscal year 2014 reviews to be more complete than the fiscal year 2013 reviews.

With regard to validation, DOD officials stated that some information associated with the compliance process had been validated, such as information associated with complying with DOD's Standard Financial Information Structure.⁵⁷ However, the DOD Inspector General recently reported that an assessment of an enterprise resource planning system determined, among other things, that the system inaccurately asserted compliance based on a future capability rather than on the system's actual capability at the time of the assessment.⁵⁸ It further stated that a more robust certification process was needed instead of having the Office

⁵⁷The Standard Financial Information Structure is intended to provide a standard financial management data structure and uniformity throughout DOD in reporting on the results of operations.

⁵⁸DOD Inspector General, *Enterprise Business System Was Not Configured to Implement the U.S. Government Standard General Ledger at the Transaction Level*, DODIG 2013-057 (Alexandria, VA: March 20, 2013).

Appropriate Business Process
Reengineering Assertions Were
Not Completed for the Majority
of Investments for Fiscal Year
2013 Certifications

of the Deputy Chief Management Officer rely on a self-certification process that did not include validation.

Officials from the Office of the Deputy Chief Management Officer have stated their intent to perform BEA compliance validation for selected defense business systems as part of the investment review process. However, they have not yet executed these activities and were not able to provide milestones for when this would be accomplished. Among other things, BEA compliance is important for helping to ensure that DOD programs have been optimized to support operations. As we and others have reported, without proper oversight and validation of compliance assertions and plans to be compliant, DOD programs are at increased risk of being defined and implemented in a way that does not sufficiently ensure interoperability and avoid duplication and overlap, which are both goals of the BEA and related investment management approach.

The act requires that precertification authorities determine that appropriate business process reengineering efforts be undertaken for the investment prior to certification approval for each covered business system. To address this requirement, DOD issued guidance in April 2011 to implement its approach for asserting business process reengineering compliance, which was intended to ensure that the underlying business process supported by the business system modernization was as streamlined and efficient as practicable. This guidance required submission of a form that integrates questions in areas related to, for example, business process definition and target process improvements. We have also issued business process reengineering guidance that recognizes, among other things, the importance of developing a clear problem statement and business case for reengineering and analyzing the current and target environments.⁵⁹

The four investments we reviewed generally followed the department's business process reengineering guidance for asserting compliance. Specifically, all four programs we reviewed—IPPS-A, IPPS-N, AF-IPPS, and iEHR—submitted business process reengineering forms, consistent with DOD guidance, and were asserted by their respective precertification authorities as being in compliance. These programs, all of which are large

⁵⁹GAO, *Business Process Reengineering Assessment Guide (Version 3)*, [GAO/AIMD-10.1.15](#) (Washington, D.C.: May 1997).

and complex investments, also had documentation, which included, to varying degrees, a general description of problems or issues to be solved, process maps that graphically documented the target business processes, and process maps that graphically documented the current business processes that were reengineered.

However, limited documentation of root cause analyses was provided for the four investments. For example, iEHR documented root cause analyses for some, but not for all five capabilities that were the focus of its reengineering efforts. It also did not document the likelihood of each probable cause. As we have previously reported,⁶⁰ there is a long history of challenges in trying to achieve electronic health records sharing between DOD and the Department of Veterans Affairs, and this analysis would be a key document for supporting the business process reengineering assertion. Without a root cause analysis to trace symptoms back to the underlying factors, an agency may determine inappropriate corrective actions, including IT solutions, to address the true problems of business process inefficiencies.

While precertification authorities asserted business process reengineering compliance for IPPS-A, IPPS-N, AF-IPPS, and iEHR, according to DOD, precertification authorities asserted that appropriate business process reengineering had been undertaken on only about 41 percent of the approximately 1,200 systems for the fiscal year 2013 certification reviews. Department officials confirmed that no system was denied certification due to lack of business process reengineering assertion even though, according to the act, compliance is a requirement for obligation of funds. As with the BEA compliance, DOD included an action item in nearly all investment decision memoranda tasking components to document a plan to achieve business process reengineering compliance for any business systems identified by the precertification authority as not being in compliance. According to department officials, one of the reasons for a number of systems that were not asserted for appropriate business process reengineering was confusion about the extent to which business process reengineering was required for systems in sustainment.⁶¹ Also

⁶⁰GAO, *Electronic Health Records: Long History of Management Challenges Raises Concerns about VA's and DOD's New Approach to Sharing Health Information*, [GAO-13-413T](#) (Washington, D.C.: Feb. 27, 2013).

⁶¹Systems in sustainment are operational, not currently modernizing, and are not slated for retirement.

similar to the BEA compliance, officials from the Office of the Deputy Chief Management Officer stated that the increase in the number of certification requests made it challenging to complete a review for all the systems. In addition, they added that the short time frame for implementing the new investment review process resulted in the need to include the action items. They also stated that they are tracking responses to these actions for each of the portfolios and expect the assertions for fiscal year 2014 reviews to be more complete than the fiscal year 2013 reviews.

The department has also begun to validate business process reengineering assertions. Specifically, DOD updated its BPR guidance in late September 2012 to include actions to be taken to review supporting documentation on selected investments. Beginning in late November 2012, the Office of the Deputy Chief Management Officer selected 35 defense business systems from across the department to inspect and validate business process reengineering assertions. According to officials, validation efforts have been labor intensive and will inform future business process reengineering assertions. However, results are not expected to be reported to the Defense Business Council in full until June 2013 and it is unclear what actions will be taken as a result. DOD's September 2012 business process reengineering guidance notes that the Defense Business Council actions may include levying conditions on defense business systems or decertification of 2013 funds until the business system becomes compliant, but no actions had been taken as of yet.

DOD's efforts to track action items and validate precertification authorities' business process reengineering assertions would enable the department to make business system investment decisions based on information that is accurate and reliable. However, the department needs to ensure that the outcomes of its efforts inform the business process reengineering to be performed on all investments for the fiscal year 2014 reviews. Further, it should ensure that appropriate business process reengineering assertions have been completed on all the business systems submitted for the fiscal year 2014 certification reviews prior to the certification of funds. Until it does, the department risks not being able to determine whether business processes are streamlined and efficient as practicable and not complying with the statutory restriction on obligation of funds.

Business Process
Reengineering Efforts Need to
Be Directly Aligned with
Business Outcomes and
Reported

DOD guidance states that business process reengineering should consist of, among other things, potential outcomes related to:

- eliminating or reducing unique interfaces to the greatest extent possible and designing necessary information exchanges logically and efficiently and
- identifying appropriate outcome-based business performance measures that are consistent and linked to intended benefits of the investment.

Among other things, our guidance⁶² also emphasizes the importance of having meaningful performance measures to assess whether business process reengineering activities actually achieve the intended results. For example, business process reengineering results should be focused on providing better support to an organization's mission, reducing costs, and improving service. We have also previously recommended⁶³ that DOD include in its annual report to Congress the results of the department's business process reengineering efforts, such as the department's determination of the number of systems that have undergone material process changes and the number of interfaces eliminated as part of these efforts (i.e., by program, by name).

For the four investments we reviewed, DOD reported that each one intends to reduce or eliminate interfaces. However, while two of the investments—AF-IPPS and IPPS-A—provided specifics about the number of interfaces needed or the number of interfaces to be reduced, none provided detailed assessments of existing interfaces for reuse opportunities and documentation related to the complexity of interfaces. For example, iEHR stated that it had not yet performed an analysis on the elimination of interfaces for any of the business capabilities identified in its supporting documentation. In the absence of such information, the department lacks the detailed justification needed to help it determine whether the investment is reducing the cost of fielding business capability.

Moreover, the business process reengineering documentation concerning performance measures varied across the four investments. For example,

⁶²[GAO/AIMD-10.1.15](#).

⁶³[GAO-12-685](#).

IPPS-N provided an extensive list of metrics associated with its reengineering processes and included baseline performance levels and targeted outcomes, such as specific decreased costs and/or decreased time. AF-IPPS included a number of metrics, some of which included baseline performance levels and targeted outcomes. On the other hand, while IPPS-A only specified targeted outcomes related to its architecture products, it did not include specific baseline performance levels of the current process and targeted outcomes of the reengineered business process. Finally, iEHR included 16 out of 19 performance metrics with quantitative outcomes for the five capabilities' target processes; however, performance baseline values were not provided for any of the current processes. Establishing a performance baseline from which to measure improvements and defining indicators related to quality, cost, and time is key to knowing if the reengineered process has produced the desired effect.

Further, while DOD included five examples of business process improvements in its most recent annual report, it did not indicate how these examples were tied to its business process reengineering efforts either for a specific business process or across the larger end-to-end business processes. DOD officials noted that they intend to track this information better in the future, but did not describe how and where this information would be reported. Until the department develops and reports on specific performance measures, as we have previously recommended, the department and its stakeholders will not know the extent to which business process reengineering is effectively streamlining and improving its business processes needed to transform the department as intended.

Office of the Deputy Chief Management Officer Needs a Strategic Approach to Managing its Human Capital Needs

The success of any program depends on effectively leveraging people, processes, and tools to achieve defined outcomes and results. To effectively leverage people, they must be treated as strategic assets. As we have previously reported,⁶⁴ a strategic approach to human capital management enables an organization to be aware of and prepared for its current and future human capital needs, such as workforce size, knowledge, skills, and training. To be effective, our research shows that such a strategic approach includes using data-driven, fact-based methods

⁶⁴GAO, *National Archives and Records Administration: Oversight and Management Improvements Initiated, but More Action Needed*, [GAO-11-15](#) (Washington, D.C.: Oct. 5, 2010).

to (1) assess the knowledge and skills needed to execute a program; (2) inventory existing staff knowledge and skills; (3) forecast the knowledge and skills needed over time; (4) analyze the gaps in capabilities between the existing staff and future workforce needs, including consideration of evolving program and succession needs caused by turnover and retirement; and (5) formulate strategies for filling expected gaps.

The Office of the Deputy Chief Management Officer has yet to determine and follow such a strategic approach to managing its human capital needs. In particular, in addressing its staffing needs, the office has not used a documented, fact-based, data-driven methodology to assess needs and existing capabilities, nor has it performed a gap analysis of the number of staff required and the specific skills and abilities needed to effectively achieve its mission of leading and enabling end-to-end integration and improvement of business operations in support of national security.

In 2012 we reported⁶⁵ that the office had defined an organizational structure and identified the staff resources it would need to fulfill responsibilities associated with business systems modernization, including leading efforts to develop the BEA and enterprise transition plan. This structure had become effective in October 2011 when the Business Transformation Agency was formally eliminated. However, it had not filled many of the positions needed to execute these responsibilities. In particular, as of April 2012, it had filled only 82 of its planned 139 positions, with 57 positions (41 percent) remaining unfilled. Officials from the Office of the Deputy Chief Management Officer attributed the unfilled positions to, among other things, challenges associated with the length of time between when DOD announced that the Business Transformation Agency, which had previously addressed many of the Office of the Deputy Chief Management Officer's current functions, would be disestablished (August 2010) and when the agency was formally disestablished (October 2011). For example, some staff chose to seek employment elsewhere due to uncertainties associated with the transition. In response, we recommended that DOD include an update on the Office of the Deputy Chief Management Officer's progress toward filling staff positions and the impact of any unfilled positions on the

⁶⁵[GAO-12-685](#).

ability of the office to conduct its work in its annual report to Congress on its business systems modernization.

Since April 2012, DOD has eliminated 42 full-time equivalent positions, leaving 97 planned positions in the Office of the Deputy Chief Management Officer. According to the Assistant Deputy Chief Management Officer, 40 of the 42 positions were eliminated as part of the Deputy Secretary of Defense's efforts to find efficiencies within the department. As of April 2013, the office reported having filled one more than the 82 positions it had filled in April 2012, still leaving 14 positions unfilled. According to officials from the Office of the Deputy Chief Management Officer, the department has imposed a 90 percent hiring limit due to sequestration. As a result, these officials stated that the office is not able to fill 10 of the planned positions.

In March 2013, DOD officials reported changes in the responsibilities of the Deputy Chief Management Officer-related functions. These changes included the realignment of responsibilities among Deputy Chief Management Officer directorates (e.g., moving the responsibility for conducting business process reengineering assessments from its Investment and Acquisition Management Directorate to its Enterprise Business Integration Directorate), the elimination of several responsibilities (e.g., the office is no longer executing enterprise risk assessments for Milestone Decision Authorities), and the addition of other responsibilities (e.g., the Technology and Innovation Directorate is now responsible for developing and designing business engineering methodologies to advance Business Mission Area objectives). While the office has subsumed many of the responsibilities that were once managed by DOD's Business Transformation Agency, the Office of the Deputy Chief Management Officer has fewer staff and contractor resources. For example, according to DOD budget documentation, the Business Transformation Agency had more than 200 civilian staff and more than 600 contract staff during fiscal year 2010. However, as of April 2013, the Office of the Deputy Chief Management Officer consisted of five directorates and was staffed with 83 government employees and 150 contractor staff. Table 5 shows the organizational components of the Office of the Deputy Chief Management Officer and key responsibilities.

Table 5: Organizational Components and Key Responsibilities of the Office of the Deputy Chief Management Officer

Organizational component	Key responsibilities
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Organizational component	Key responsibilities
Investment and Acquisition Management Directorate	Report to Congress on progress and improvements made in the DOD Business Mission Area. Develop the enterprise transition plan. Provide acquisition oversight and lead IT acquisition reform. Conduct and execute investment portfolio reviews.
Enterprise Business Integration Directorate	Reengineer and apply end-to-end processes to improve business operations and support audit readiness. Manage and oversee the appropriate end-to-end governance model(s) and forum(s). Identify and analyze requirements for BEA development.
Technology and Innovation Directorate	Build and deliver the BEA. Develop and promote enterprise standards for business architecture. Manage and execute BEA statutory requirements.
Planning and Performance Management Directorate	Develop the Strategic Management Plan. Improve performance management infrastructure and leverage continuous process improvement methodologies. Conduct organizational assessments and develop organizational guidance to set forth the priority performance outcomes for the department.
Operations Directorate	Manage the day-to-day operations of the Office of the Deputy Chief Management Officer (e.g., human resources, budgeting, IT).

Source: GAO analysis based on DOD documentation.

The Office of the Deputy Chief Management Officer has conducted analyses of the functions that the office is to perform, but has not conducted human capital analyses. More specifically, to its credit, the Office of the Deputy Chief Management Officer identified the functions that each of the office's directorates was to perform as the office was being established. The office also recently revisited these functions. However, the Assistant Deputy Chief Management Officer stated that the office has not conducted human capital analyses and that no plans exist to analyze and address skill gaps. Instead, the Assistant Deputy Chief Management Officer stated that the office focuses on addressing its priorities by working with its existing staff and leveraging staff from entities and individuals across the department who participate in related entities (e.g., the Defense Business Council) and efforts (e.g., end-to-end business process activities).

Officials from the Office of the Deputy Chief Management Officer stated that the current level of staffing and capabilities is sufficient to effectively

achieve its mission and related functions. Nevertheless, the department has had a number of challenges in addressing its mission of achieving its vision relative to developing a federated BEA, an enterprise transition plan, an investment management process, and a strategic plan, as described in this report and our recent report on business transformation efforts.⁶⁶ For example, we found that while DOD had made some improvements to its Strategic Management Plan, further refining the plan to include key information such as performance measures that fully reflect core activities needed to assess progress could help DOD better prioritize and target its reform efforts to address the underlying causes of its systemic business challenges and to achieve results. Unless the Office of the Deputy Chief Management Officer adopts a more strategic and proactive approach to managing its human capital, it will continue to be challenged in its ability to help ensure that the required capabilities and mission value for approximately 1,200 business system investments—totaling about \$6.8 billion in approved funding for fiscal year 2013—will be delivered in a timely and cost-effective manner.

Key Recommendations Have Not Yet Been Implemented

Between 2005 and 2008, we made 48 recommendations to assist DOD in developing a well-defined and useful BEA and business system investment management approach and in gaining better insight into and control over its ongoing business system investments, which are consistent with the NDAA requirements. Of these, we reported that DOD had implemented 31, but 17 recommendations were not implemented. For example, the department had not

- Issued an architecture management plan that addresses, among other things, how business architecture federation will be governed, how the alignment of component business architectures with incremental versions of the BEA will be achieved, and what milestones will be used to measure progress and results.
- Directed the responsible authorities in the department to use the program-specific data in the compliance assessment tool for identifying and analyzing potential overlap and duplication, and thus opportunities for reuse and consolidation among programs and provide programs access rights to use this functionality.

⁶⁶GAO, *Defense Business Transformation: Improvements Made but Additional Steps Needed to Strengthen Strategic Planning and Assess Progress*, [GAO-13-267](#) (Washington, D.C.: Feb. 12, 2013).

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- Explicitly assigned responsibility for validating program BEA compliance assertions to military departments and defense agencies or issued guidance that describes the nature, scope, and methodology for doing so.

Since 2009, we have made 15 additional recommendations to assist DOD in its business systems modernization efforts. (See app. III for details on the status of these 15 recommendations.) As of April 2013, the department had fully implemented 3 recommendations, with 12 remaining to be addressed. Specifically, the department has fully implemented our recommendations⁶⁷ to:

- include provisions in its guidance requiring certification submissions to include any of our open recommendations for program weaknesses as well as the status of actions to address these recommendations;
- disestablish the Business Transformation Agency and complete the transfer of its various responsibilities to other DOD entities; and
- ensure more accurate categorizations of its IT investments.

In addition, the department has begun to take steps to address some of the remaining 12 recommendations, including developing new policies and guidance and establishing new governance entities, but additional actions are needed before the remaining recommendations are fully addressed. For example, in response to our recommendation⁶⁸ that the department establish a policy that clarifies the roles, responsibilities, and relationships among the various entities associated with the development of a federated BEA, the department stated that it has a number of policy and guidance documents currently under development to help clarify the roles and responsibilities associated with development of the BEA and enterprise architecture in general across DOD. For example, DOD has established a forum for discussing the development of the federated BEA and is currently working to establish a BEA Configuration Control Board charter, which is intended to document the roles and responsibilities for the review and approval of proposed BEA content. However, DOD has yet to issue these policy and guidance documents.

Officials from the Office of the Deputy Chief Management Officer cited various reasons for not fully implementing our open recommendations,

⁶⁷GAO-10-663, GAO-11-684, and GAO-12-241.

⁶⁸GAO-12-685.

including changes to the act's requirements that significantly expanded the number of systems subject to certification and approved as compliant with the BEA and having completed sufficient business process reengineering and prioritizing changes to balance competing priorities. It is important that the department move swiftly in doing so because these recommendations are aimed at strengthening architecture (and transition planning) management activities and controlling ongoing and planned business system investments. Until it does, the likelihood of sustained incremental improvement to its modernization management controls will be diminished and the means of holding the department accountable for such improvement will be missing.

Conclusions

Over the last year, the department has continued to take a number of steps to comply with the provisions of the act, including significant changes to the requirements for investment review and certification of defense business systems. The department has begun to improve the content of its BEA and enterprise transition plan, but additional content is still needed to fully address the act's requirements and to make the BEA and plan more useful for modernizing the defense business systems enterprise. In addition, while DOD has begun to improve the information it uses to help manage its portfolio of business system investments, it has yet to fully implement its plans for validating the completeness and reliability of the information. DOD has also taken steps, in accordance with the act, to establish a portfolio-based approach to reviewing and certifying its defense business systems. Nevertheless, the lack of an established foundation and criteria and procedures for making portfolio-based investment decisions will continue to inhibit the department's ability to make sound, portfolio-based investment decisions that align with mission priorities. Further, DOD has yet to ensure the accuracy of BEA alignment through validation of individual investments. Moreover, while the department has begun taking steps to reengineer its business systems and processes, the lack of appropriate business process reengineering assertions and the reporting of associated results and outcomes puts the department at risk of not being able to determine whether business processes are streamlined and efficient as practicable. Further, it puts the department at risk of noncompliance with the statutory restriction on obligation of funds. Finally, the efforts of the Office of the Deputy Chief Management Officer have been impacted by the lack of a strategic approach to managing its human capital needs. To date, DOD has not implemented 29 of the 63 recommendations in our reports and the modernization program remains on our High Risk List.

To successfully accomplish its modernization program, it is important for DOD to complete all intended steps for implementation of the program: improve its federated BEA, enterprise transition plan, and its investment management approach; validate the completeness and reliability of its portfolio of business system investments; implement and use the BEA and business process reengineering compliance assessments more effectively; and address its human capital needs. Until the department takes such needed steps, it is unlikely that its approximately 1,200 business system investments—totaling about \$6.8 billion in approved funding for fiscal year 2013—will be managed in an effective manner that maximizes mission performance while minimizing or eliminating system overlap and duplication.

Recommendations for Executive Action

We are recommending that the Secretary of Defense direct the Deputy Chief Management Officer to take the following six actions to effectively implement key components of DOD's business systems modernization program:

- Define by when and how the department plans to develop an architecture that would extend to all defense components and include, among other things, (a) information about the specific business systems that support BEA business activities and related system functions; (b) business capabilities for the Hire-to-Retire and Procure-to-Pay business processes; and (c) sufficient information about business activities to allow for more effective identification of potential overlap and duplication.
- Define by when and how the enterprise transition plan will include, among other things, (a) milestones, performance measures, and funding plans for all business systems expected to be part of the target architecture and each system's risks or challenges to integration; (b) time-phased end dates associated with terminating legacy systems in phases; (c) a listing of all other defense business systems (including systems that are considered to be core systems) that will be a part of the target defense business systems computing environment and a strategy for making modifications to those systems that will be needed to ensure that they comply with the defense BEA, including time-phased milestones, performance measures, and financial resource needs; and (d) information about how systems are to be sequenced according to, among other things, dependencies among investments.
- Ensure that the functional strategies include all of the critical elements identified in DOD investment management guidance, including

performance measures to determine progress toward achieving the goals that incorporate all of the attributes called for in the department's guidance.

- Select and control its mix of investments in a manner that best supports mission needs by (a) documenting a process for evaluating portfolio performance that includes the use of actual versus expected performance data and predetermined thresholds; (b) ensuring that portfolio assessments are conducted in key areas identified in our IT investment management framework: benefits attained; current schedule; accuracy of project reporting; and risks that have been mitigated, eliminated, or accepted to date; and (c) ensuring that the documents provided to the Defense Business Council as part of the investment management process include critical information for conducting all assessments.
- Implement and use the BEA and business process reengineering compliance assessments more effectively to support organizational transformation efforts by (a) disclosing relevant information about known weaknesses, such as BEA and business process reengineering compliance weaknesses for systems that were not certified or certified with qualifications in annual reports to Congress; (b) establishing milestones by which selected validations of BEA compliance assertions are to be completed; and (c) ensuring that appropriate business process reengineering assertions have been completed on all investments submitted for the fiscal year 2014 certification reviews prior to the certification of funds.
- Develop a skills inventory, needs assessment, gap analysis, and plan to address identified gaps as part of a strategic approach to human capital planning for the Office of the Deputy Chief Management Officer.

In addition, we are recommending that the Secretary of Defense direct the appropriate authority to ensure that complete documentation, such as root cause analyses, assessments of existing interfaces for reuse opportunities, and performance metrics related to the reengineering efforts, is provided as part of the fiscal year 2014 certification and approval process for the IPPS-A, IPPS-N, AF-IPPS, and iEHR investments.

We further recommend that the Secretary direct the appropriate authority to determine whether funds were properly obligated under 10 U.S.C. § 2222(a)-(b) for systems for which appropriate business process reengineering assertions were not completed.

Agency Comments and Our Evaluation

In written comments on a draft of this report, signed by the Deputy Chief Management Officer, DOD concurred with two of our eight recommendations, partially concurred with three recommendations, and did not concur with three recommendations. The department stated that it disagreed with many of the assertions put forward by us and believed that there was a lack of balance expressed in the report. It also stated that the report demonstrated a lack of understanding of the department's new investment management process and the significant improvements it has produced, such as revamping the business mission area governance and establishing an Integrated Business Framework in response to the NDAA for Fiscal Year 2012. The department added that these changes have resulted in significant progress rather than the slow improvements portrayed in the report. Further, the department stated that while its business systems modernization efforts will continue to evolve, it is important for the department and Congress not to lose sight of the bigger picture of what they endeavor to achieve by focusing only on the set of challenges cited in our report. It remarked that DOD's business mission area is a complex, interconnected environment that is unprecedented in size. Finally, it stated that there is significant focus in the report on the department's failure to implement recommendations that are almost a decade old and that have been overtaken by more recent events. DOD's comments are reprinted in their entirety in appendix IV.

In contrast to DOD's stated position, we believe the report provides a balanced view of DOD's efforts and reflects an appropriate level of understanding of the department's new, but still evolving, investment management process. For example, in our report, we recognized that DOD had continued to add needed content, such as data standards, business rules, and performance measures to its architecture, as called for by the act. However, we also noted that while DOD had initiated a number of efforts to federate its BEA to the components, it remained unclear as to when and how it would develop an architecture that covers all defense business systems and their related functions and activities. As another example, we reported that to its credit, the department had made a number of improvements to its functional strategies for the fiscal year 2014 certification cycle, but also noted that it had yet to establish performance measures in which all key attributes identified in DOD guidance are present in the strategies.

Our report also appropriately focused on the scope of work called for by the act's reporting requirements and recognized that while DOD has initiated numerous management activities, such as the Integrated Business Framework, aimed at modernizing its business systems

environment, it has also been limited in its ability to demonstrate results. We also recognize that DOD's business mission area is a complex, interconnected environment that is unprecedented in size. In this regard, our study focused on the management controls, as defined in the NDAA and our prior recommendations, which are vital to ensuring that the department can effectively and efficiently manage an undertaking with the size, complexity, and significance of its business systems modernization and minimize the associated risks. Further, our report appropriately focused on the same challenges that DOD has been facing in modernizing its business systems and that prompted the recommendations in the first place, regardless of their age. For example, since 2001, we have provided a series of recommendations relative to developing and using a business enterprise architecture and establishing effective investment management controls to guide and constrain DOD's multibillion-dollar business systems and services. In addition, since 2002, Congress has included provisions consistent with GAO's recommendations in National Defense Authorization Acts, which DOD has yet to fully address. Our report also appropriately addressed both the department's progress (to include the implementation of 34 out of 63 recommendations), as well as the long-standing challenges that we had previously identified and that remained to be addressed during our study. DOD has not provided evidence to demonstrate progress in addressing a number of these challenges and our related prior recommendations and, as a result, the modernization program remains on our High Risk List. Further, while we support any departmental efforts, whether completed or ongoing, that would address the challenges cited in our report, we note that DOD did not disagree with the facts as presented in the report. Therefore, we stand by our findings and recommendations.

DOD's specific comments on each recommendation, along with our responses to its comments, follow.

- The department partially concurred with our first recommendation to define by when and how it plans to develop an architecture that would extend to all defense components and include missing content. In this regard, it agreed that plans for continuing to mature the federated BEA should be completed. It also noted that the department had already taken the necessary initial steps to extend the BEA to all defense components that are institutionalized via the Integrated Business Framework, which was implemented during calendar year 2012. In particular, the department stated that its Integrated Business Framework links the development of functional business strategies, the identification of associated BEA changes, and the submission of

organizational execution plans from the components. It added that the information contained in the component-developed organizational execution plans constitutes key elements of the components' portions of the federated BEA.

We recognize that the functional strategies and organizational execution plans include information that might be incorporated into the BEA, such as information about enterprise standards and performance measures. We also acknowledged, in the report, the steps that DOD is taking to mature its BEA content, including establishing a forum for generating recommendations regarding how to proceed with the architecture. Nevertheless, while the department stated that it has taken initial steps to federate the BEA to all defense components, it has yet to articulate, as recommended, by when and how it will fully achieve its federated BEA. Thus, while the department has various efforts in place that may contribute content to its federated business architecture, as described in the report, these efforts have yet to result in a federated business architecture that extends to all defense components, and the architecture continues to lack critical content needed to achieve the department's vision for an architecture that can be used to guide, constrain, and enable interoperable business systems. Thus, we continue to stress full implementation of this recommendation.

- DOD partially concurred with our second recommendation to define by when and how the enterprise transition plan will include, among other things, milestones, performance measures, and funding plans for all business systems expected to be part of the target architecture and each system's risks or challenges to integration, as identified in our report. In its comments, DOD referred to specific actions and processes that it states meet the act's requirements. For example, DOD stated that milestones, performance measures, and funding plans for all business systems expected to be part of the target architecture and each system's risks or challenges to integration are explained in presentations provided to the Defense Business Council. It also stated that the listing of systems that will be part of the target defense business systems computing environment and strategy for making modifications to systems that will be needed to ensure that they comply with the defense BEA, including time-phased milestones, performance measures, and financial resource needs, is being met by the precertification process and through the defense acquisition milestones and performance measures. Further, it noted that information about how systems are to be sequenced according to,

among other things, dependencies among investments is captured in presentations and supporting materials provided to the Defense Business Council.

However, while noting these actions, the Office of the Deputy Chief Management Officer did not provide evidence that such information is presented during the precertification process or to the Defense Business Council for every defense business system. With respect to the Defense Acquisition System, while the acquisition process might support and be informed by the development of an enterprise transition plan, the existence of the acquisition process does not invalidate the need for the plan to include the information called for by the act. Regardless of whether such information is presented to the Defense Business Council or addressed through other DOD processes, such as the department's acquisition process, the act still calls for the information to be included in the transition plan. Doing so will help ensure informed oversight of DOD business systems investments and help provide the department with a sufficient basis for sequencing business capabilities and system functions to be subsumed by a modern system.

DOD also referred to actions the department has taken to improve its approach to managing business systems investments, including establishing priorities in its Strategic Management Plan and developing its functional strategies and organizational execution plans, which are discussed in our report. In addition, the department referred to its acquisition and budgeting processes, which it says provides DOD with greater visibility into the business enterprise than ever before. While we recognize that these actions and processes are important parts of the department's efforts to manage its business systems investments, our recommendation focuses on the need for DOD to describe by when and how gaps that we identified in the report would be included in its enterprise transition plan. Doing so would promote visibility across the existing DOD processes and provide a basis for coordinating modernization activities and the concurrent development of business systems in a manner that limits unnecessary duplication and increases the likelihood that systems will be interoperable. Consistent with the department's data-driven approach to managing its business systems, the approach described by officials from the Office of the Deputy Chief Management Officer to addressing its transition plan gaps is to leverage information that may already exist across the department. Accordingly, if existing processes already collect data that are required to be included in the

plan, then the department should leverage and incorporate these data in the plan. Such an approach would provide DOD with an improved basis for sequencing business capabilities and system functions to be subsumed by modern systems while limiting unnecessary duplication.

Further, with regard to including time-phased end dates associated with terminating legacy systems in phases, DOD stated that this requirement is being met by the establishment of a category of “legacy” investments that are to be retired within the next 36 months along with an explanation of what, if any, systems will continue to support the business need. The department also stated that all other defense business systems are considered core systems and, therefore, must demonstrate compliance with the BEA while ensuring appropriate business process reengineering. Accordingly, the department stated that it does not require that its legacy systems demonstrate compliance with the BEA. While we agree that it may not be an efficient use of resources to modify legacy systems that will soon be retired, the act and our recommendation focuses on the importance for all the other defense business systems (including core systems since they will be part of the target environment) to be included in the enterprise transition plan and taking a phased approach to eliminating systems. As such, information about how systems will be retired in phases and associated milestones remains an important part of the transition plan. Thus, we stand by our recommendation, but have added additional clarification to the recommendation and to our discussion of this matter in the body of the report to reflect DOD’s approach for addressing legacy systems.

- The department concurred with our third recommendation to ensure that the functional strategies include all of the critical elements identified in DOD investment management guidance.
- The department did not concur with our fourth recommendation to select and control its mix of investments in a manner that best supports mission needs by (a) documenting a process for evaluating portfolio performance that includes the use of actual versus expected performance data and predetermined thresholds; (b) ensuring that portfolio assessments are conducted in key areas identified in our IT investment management framework: benefits attained; current schedule; accuracy of project reporting; and risks that have been mitigated, eliminated, or accepted to date; and (c) ensuring that the documents provided to the Defense Business Council as part of the investment management process include critical information for

conducting all assessments. The department noted that our recommendation did not recognize the significant improvements the department made in 2012 to fundamentally change how it reviews its defense business systems.

With regard to the first part of the recommendation about process documentation, DOD stated that its investment review guidance defines the review criteria used to evaluate and certify business systems via organizational execution plans and was updated based on lessons learned in 2012. It also stated that the department intends to withhold certification for business system investments that are not aligned to the functional strategies, unless a business system is required for critical operational support, and that its IRB does not intend to review acquisition issues associated with individual business systems since that function is performed by the Defense Acquisition System. Our report acknowledged that DOD's 2012 investment management guidance defines review criteria that the Defense Business Council is to use for evaluating and certifying portfolios of business systems rather than individual systems and credits the department for revising its guidance for the 2014 certification of defense business systems. However, the department has not specified a process for using the criteria to make portfolio-based certification decisions that incorporate the use of actual versus expected performance data and predetermined thresholds, which, according to our IT investment management framework, is a major factor in evaluating portfolio performance and defining remedial actions for underperforming investments.

With regard to the second part of our recommendation covering portfolio assessments, DOD stated that key components of GAO's IT investment management framework are being leveraged to evaluate the investment portfolios presented to the Defense Business Council and noted that the portfolio-based review process is intended to complement rather than duplicate DOD's Defense Acquisition System. According to the department, the Defense Acquisition System is the core process used by the department to manage defense acquisitions and it already contains significant elements of GAO's framework. We agree and acknowledged in our report that components of our framework are being leveraged in evaluating investment portfolios. However, the intent of our recommendation is not to duplicate already existing processes, but rather, to ensure that assessments in four key areas identified in our IT investment management framework (benefits attained, current schedule, accuracy of project reporting, and risks

that have been mitigated, eliminated, or accepted to date) are incorporated and considered when making annual certification decisions. As discussed in our report, some investments may exceed performance expectations (e.g., delivering at lower cost, in less time, and with better benefits than expected) and in these cases, the board may wish to accelerate an investment's funding or schedule, reallocate resources within the overall portfolio, or make some other type of adjustment.

With regard to the third part of our recommendation on documentation for conducting assessments, the department stated that the information derived for strategic alignment, cost, utility, and compliance is already given to the Defense Business Council and incorporates objective information derived from authoritative documents and data sources. It also noted that the documentation is supported by input from the functional area owners and subject matter experts. However, as discussed in our report, the department's investment management guidance does not call for the organizational execution plans, which are the key documents used by the Defense Business Council to make certification decisions, to include critical information for conducting assessments associated with strategic alignment, utility, and total cost criteria.

Notwithstanding the actions DOD has taken in these areas, we continue to believe our recommendation, in its entirety, is warranted.

- With regard to our fifth recommendation, the department partially concurred. Specifically, DOD agreed with the first two parts of our recommendation that the BEA and business process reengineering compliance assessments be used to support organizational transformation efforts by disclosing relevant information about known weaknesses and identifying milestones for completing selected validations. However, it did not agree with the third part of the recommendation on ensuring that appropriate business process reengineering assertions have been completed for all investments submitted for the fiscal year 2014 certification reviews prior to the certification of funds. The department noted that requiring this assertion for systems solely in sustainment or scheduled for retirement would divert scarce resources to tasks that would provide no benefit. Further, it stated that its latest Business Process Reengineering Assessment Guidance of September 28, 2012, provided DOD with a business process reengineering standard, a plan for validating a sample of defense business programs' compliance

assertions, and a requirement for precertification authorities to develop a Plan of Action for all defense programs that did not assert compliance in fiscal year 2013 to become compliant, which was also documented in related investment decision memoranda.

We have recognized all of these steps cited by the department in our report. Nonetheless, we stand by our recommendation for completing appropriate business process reengineering assertions for all investments, which is a requirement of the NDAA and in accordance with DOD guidance. Specifically, DOD's Business Process Reengineering Assessment Guidance describes how the standard DOD has developed should be applied to varying degrees depending on the life-cycle stage of each defense business system, providing a reduced burden for systems in sustainment and eliminating the requirement for those systems designated as legacy, which for fiscal year 2013 included about 99 systems. We acknowledge DOD's approach as described in its guidance, but maintain that a precertification authority would still need to make the determination that appropriate business process reengineering efforts had been undertaken. The precertification authority would also be able to assert and validate compliance for a system in sustainment if the system has followed DOD guidance and for a legacy system scheduled to be retired within 36 months because no reengineering was required. However, for the fiscal year 2013 reviews, the use of the action items requiring precertification authorities to develop an action plan for all defense business programs, which did not assert business process reengineering compliance, resulted in more than half of the covered business systems being asserted as non-compliant at the time they were certified. We also acknowledge that the department is working to remedy this situation for fiscal year 2014, but our recommendation has been made to ensure that asserting compliance, as required by the act, is a departmentwide priority. Thus, we continue to believe our recommendation is warranted.

- The department did not concur with our sixth recommendation to develop a skills inventory, needs assessment, gap analysis, and plan to address identified gaps as part of a strategic approach to human capital planning. In particular, DOD stated that we did not recognize that the Office of the Deputy Chief Management Officer is a relatively small component of the Office of the Secretary of Defense and that we had directed the office to undertake a level of activity normally designed for an entire agency. While we recognize that the office is a relatively small component of the overall department, as we reported,

the success of any program depends on effectively leveraging people to achieve defined outcomes and results. Further, without knowing if it has the right number of staff required and the specific skills and abilities needed, the office will be challenged in its ability to effectively achieve its mission of leading and enabling end-to-end integration and improvement of business operations for approximately 1,200 business system investments—totaling about \$6.8 billion in approved funding for fiscal year 2013.

DOD also stated that the report misunderstands statements made by officials within the office and draws conclusions about the impact of staffing levels that are not supported by the report's findings. More specifically, the department stated that the office thoroughly considered the skills of its employees, sought to optimally align them organizationally, and has used hiring actions to bring additional skill sets onboard that filled identified gaps. While our report acknowledged the efforts the office has taken to conduct analyses of the functions that it is to perform, we also note that the office did not provide evidence that it has used a documented, fact-based, data-driven, methodology to assess human capital needs and existing capabilities, or performed a gap analysis of the number of staff required and the specific skills and abilities needed to effectively achieve its mission.

The department further noted that the report attributes consequences that are beyond what is supported by the report's findings and that weaknesses we identified in the department's federated architecture, investment management data, and transition plan content are departmental weaknesses and are not simply due to the staffing levels of the Office of the Deputy Chief Management Officer. While we recognize DOD's "tiered accountability" approach to business systems modernization, where responsibility and accountability for business architectures and systems investment management are assigned to different levels in the department, we do not agree with the department's assertions. Our report does not link the weaknesses to the staffing levels but rather it states that the efforts of the Office of the Deputy Chief Management Officer have been impacted by the lack of a strategic approach to managing its human capital needs. Given the level of oversight entrusted to the office relative to business systems modernization, it is important that it address the weaknesses identified in our report. Thus, it is imperative for the office to help ensure that its workforce is appropriately sized and has the right mix of knowledge, skills, and training. Adopting a more strategic and

proactive approach to managing its human capital will be a positive step forward in helping to ensure that such weaknesses will be addressed in a timely and cost-effective manner. As such, we stand by this recommendation.

- The department concurred with our seventh recommendation to ensure that complete documentation, such as root cause analyses, assessments of existing interfaces for reuse opportunities, and performance metrics related to the reengineering efforts, are provided as part of the fiscal year 2014 certification and approval process for the IPPS-A, IPPS-N, AF-IPPS, and iEHR investments. It stated that its Business Process Reengineering Assessment Guidance of September 28, 2012, addressed our concerns in its standard questions. We support the department's efforts to address our recommendation and reiterate the importance of ensuring that complete documentation, in support of the standard questions, is provided as part of the certification and approval process.
- The department did not concur with our eighth recommendation to determine whether funds were properly obligated under 10 U.S.C. §2222(a)-(b) for systems for which appropriate business process reengineering assertions were not completed. DOD stated that it believes that it has already met the conditions of the act through reviews by the precertification authorities and the Defense Business Council. The department noted, as an example, that it considers any existing defense business systems with a retirement date within 36 months of certification to be legacy systems, so development and modernization funds for these legacy systems have been removed from the budget. It further noted that the requirement to retire these systems is included in all relevant documentation generated; is approved by the Defense Business Council and the Defense Business Systems Management Committee; and therefore has been reviewed for compliance. DOD stated that its approach to legacy systems scheduled for retirement conserves resources of the department. The department also stated that all other defense business systems (including existing systems that will be modernized) are considered core systems and, therefore, must demonstrate compliance to the BEA while ensuring appropriate business process reengineering. Further, the department stated that its revised Business Process Reengineering Assessment Guidance memorandum of September 28, 2012, specifically addressed the requirement for the precertification authority to develop a Plan of Action for all defense business programs that did not assert business process reengineering

compliance in fiscal year 2013 to become compliant; this requirement was also documented in the investment decision memorandum for each organizational execution plan as a condition to the fiscal year 2013 certification of funds.

Consistent with a determination that appropriate business process reengineering efforts have been undertaken, we acknowledge that a legacy system scheduled to be retired within 36 months would be asserted in compliance because no reengineering was required. However, for all other defense business systems that are not legacy systems scheduled for retirement, we do not agree that the department has already met the conditions of the act through reviews by the precertification authorities and the Defense Business Council. We maintain that, consistent with the act, a precertification authority would still need to make the determination that appropriate business process reengineering efforts have been undertaken as a condition for obligating funds for covered defense business system programs. We acknowledge that DOD has some discretion in deciding what constitutes the undertaking of appropriate business process reengineering efforts. Further, the act provides alternative bases for certification prior to the obligation of funds that DOD could consider in some situations. However, the majority of systems did not assert business process reengineering compliance at the time they were certified and DOD's use of a Plan of Action in lieu of determining that appropriate business process reengineering efforts have been undertaken does not directly address our recommendation to determine whether funds were properly obligated under the act. Indeed, DOD's description of its actions actually highlights the apparent absence of compliance with the condition on the certification of funds for the majority of the systems. In this regard, the subsequent higher-level review and certification of these systems does not rectify the absence of the necessary determinations by the precertification authorities, as required by the act. Accordingly, we reassert our recommendation.

We are sending copies of this report to the appropriate congressional committees; the Director, Office of Management and Budget; the Secretary of Defense; and other interested parties. This report also is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff members have any questions on matters discussed in this report, please contact me at (202) 512-6304 or melvinv@gao.gov. Contact points for our Offices of Congressional Relations and Public

Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix V.

A handwritten signature in black ink that reads "Valerie C. Melvin". The script is cursive and fluid, with the first letters of each word being capitalized and prominent.

Valerie C. Melvin
Director
Information Management and Technology Resources Issues

List of Committees

The Honorable Carl Levin
Chairman
The Honorable James M. Inhofe
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Dick Durbin
Chairman
The Honorable Thad Cochran
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Howard P. McKeon
Chairman
The Honorable Adam Smith
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable C.W. Bill Young
Chairman
The Honorable Pete Visclosky
Ranking Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Appendix I: Objective, Scope, and Methodology

Our objective was to assess the actions by the Department of Defense to comply with section 332 of the National Defense Authorization Act for Fiscal Year 2005 and amendments.¹ These include (1) developing a business enterprise architecture (BEA) to cover all defense business systems, (2) developing a transition plan for implementing the architecture, (3) identifying systems information in its annual budget submission, (4) establishing a system investment approval and accountability structure along with an investment review process, and (5) certifying and approving any business system program costing in excess of \$1 million. In addition, we reviewed the department's efforts to develop a strategic approach to human capital management and address our prior open recommendations.

To address the provision associated with developing a business architecture, we analyzed version 10.0 of the BEA, which was released in February 2013 relative to the act's architectural requirements, DOD's September 2011 Strategic Management Plan, and recommendations that our previous annual reports in response to the act identified as not being fully implemented. Specifically, we interviewed officials from the Office of the Deputy Chief Management Officer and reviewed written responses and related documentation on steps completed, under way, or planned to address the act's requirements and previously reported weaknesses. We then reviewed architectural artifacts in BEA 10.0 to validate the responses and identify any discrepancies. In addition, we reviewed documentation and interviewed officials from the Office of the Deputy Chief Management Officer and the military departments about efforts to establish a federated business mission area enterprise architecture.

To address the provision associated with developing a transition plan, we analyzed DOD's enterprise transition plan, released in December 2012, relative to the act's transition plan requirements and related findings documented in previous GAO reports. Specifically, we interviewed officials from the Office of the Deputy Chief Management Officer and reviewed written responses and related documentation on steps completed, under way, or planned to address the act's requirements and

¹Pub. L. No. 108-375, § 332, 118 Stat. 1811, 1851-1856 (2004), as amended by the NDAA for Fiscal Year 2013, Pub. L. No. 112-239, 126 Stat. 1632 (2012), the NDAA for Fiscal Year 2012, Pub. L. No. 112-81, 125 Stat. 1298 (2011), and the NDAA for Fiscal Year 2010, Pub. L. No. 111-84, 123 Stat. 2190 (2009) (codified in part at 10 U.S.C. § 2222.)

previously reported weaknesses. We then reviewed enterprise transition plan documentation (e.g., organizational execution plans and Office of Management and Budget (OMB exhibit 300s)) to validate the responses and identify any discrepancies.

To assess the system information in DOD's fiscal year 2013 information technology budget submission, we analyzed and compared information contained in the department's system that is used to prepare its budget submission—Select and Native Programming Data Input System—Information Technology (SNAP-IT) with information in the department's authoritative business systems inventory—Defense Information Technology Portfolio Repository (DITPR). We were unable to determine whether DOD's fiscal year 2014 information technology budget submission was prepared in accordance with the criteria set forth in the act because the budget submission was not released in time for us to review it for this report. We also interviewed officials from the Office of the Deputy Chief Management Officer and office of DOD's Chief Information Officer to discuss the accuracy and comprehensiveness of information contained in the DITPR system, the discrepancies in the information contained in the DITPR and SNAP-IT systems, and efforts under way or planned to address these discrepancies and our prior recommendations.

To address the act's provision for establishing an investment approval and accountability review structure along with an investment review process, we reviewed and analyzed the department's current policies, procedures, and guidance relative to the act's requirements and criteria documented in our IT Investment Management framework.² Specifically, to determine whether a single Investment Review Board, composed of appropriate senior executives, had been established, we reviewed the October 2012 Defense Business Council charter. To determine whether the foundation for DOD's new investment management process had been fully established, we reviewed and analyzed the six functional strategies prepared for the fiscal year 2013 certification cycle on the extent to which they included the critical elements called for in the department's June

²GAO's ITIM framework provides a method for evaluating and assessing how well an agency is selecting and managing its IT resources. The framework, which describes five progressive stages of maturity that an agency can achieve in its investment management capabilities, was developed on the basis of our research into the IT investment management practices of leading private- and public-sector organizations. See GAO, *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*, [GAO-04-394G](#) (Washington, D.C.: March 2004).

2012 investment management guidance. We also reviewed and analyzed the investment management guidance to determine whether criteria and procedures had been fully defined for making portfolio-based investment decisions and the extent to which they aligned to our IT investment management framework. In addition, we reviewed and analyzed the April 2013 revised investment management guidance and updated versions of the six functional strategies prepared for the fiscal year 2014 certification cycle to determine whether improvements had been made. Finally, we interviewed cognizant officials in the Office of the Deputy Chief Management Officer to gain a better understanding of the process and its outputs and planned improvements for fiscal year 2014 defense business system certifications.

To determine whether the department was certifying and approving business system programs costing in excess of \$1 million in accordance with the act's provisions, we reviewed and analyzed DOD's fiscal year 2013 report to Congress, all organizational execution plans and their respective precertification request memoranda, and associated portfolio attachments submitted as part of the fiscal year 2013 investment review process. This also included reviewing and analyzing investment decision memoranda which documented the decisions made by the Defense Business Council. We also compared our results with the information reported in DOD's annual report to Congress to identify any discrepancies and discussed these with cognizant officials from the Office of the Deputy Chief Management Officer. Due to DOD's manual data cleanup efforts during the fiscal year 2013 investment review process, we were unable to verify the exact number and value of certification requests.

As part of our evaluation under this requirement, we also sought to identify the process associated with asserting BEA and business process reengineering compliance for covered defense business systems and the documentation used to support those assertions. To accomplish this, we reviewed DOD guidance and related documentation that applied to the fiscal year 2013 investment portfolio reviews and relevant updates to that guidance issued during our audit. We then applied the guidance to four investments that we selected—Air Force Integrated Personnel and Pay System, Integrated Personnel and Pay System-Navy, Integrated Personnel and Pay System-Army, and the Integrated Electronic Health Record System—based on the following criteria: the investment was (1) one of the top 25 largest dollar business system programs identified using the 2013 IT systems budget submission, (2) not the recent subject of DOD Inspector General review that included review of business process reengineering activities, and (3) an example from one of the military

departments or defense agency or activity. In reviewing these investments, we analyzed and compared BEA and business process reengineering supporting documentation that was submitted as part of compliance assertions for fiscal year 2013 request for certification of funds, to requirements in DOD's 2011 BEA compliance guidance,³ DOD's business process reengineering assessment guidance,⁴ and our Business Process Reengineering Assessment Guide.⁵ The supporting documentation, among other things, documented the current and target processes and described business performance metrics. We also interviewed officials from each system's component—the Departments of Air Force, Army, Navy, and the Tricare Management Activity—and discussed the program-specific documentation submissions with program officials. In addition, we interviewed officials from the Office of the Deputy Chief Management Officer about steps completed, under way, or planned relative to BEA and business process reengineering compliance and validation activities. Further, we interviewed DOD officials about efforts to understand, track, and report outcomes related to business process reengineering efforts. We also reviewed DOD's annual report to Congress to determine if business process reengineering outcomes had been reported.

To determine the extent to which the Office of the Deputy Chief Management Officer had implemented a strategic approach to human capital management, we reviewed our own guidance and reports on federal agencies' workforce planning and human capital management efforts.⁶ We then met with officials from the Office of the Deputy Chief Management Officer, including the Assistant Deputy Chief Management

³Department of Defense, *DOD Business Enterprise Architecture: Compliance Guidance for BEA 8.0* (Mar. 11, 2011).

⁴Department of Defense, *Guidance for the Implementation of Section 1072 – Business Process Reengineering* (Apr. 30, 2011); and *Business Process Reengineering Assessment Guidance* (Sept. 28, 2012).

⁵GAO, *Business Process Reengineering Assessment Guide (Version 3)*, [GAO/AIMD-10.1.15](#) (Washington, D.C.: May 1997).

⁶GAO, *National Archives and Records Administration: Oversight and Management Improvements Initiated, but More Action Needed*, [GAO-11-15](#) (Washington, D.C.: Oct 5, 2010); *Information Technology: FBI Has Largely Staffed Key Modernization Program, but Strategic Approach to Managing Program's Human Capital Is Needed*, [GAO-07-19](#) (Washington, D.C.: Oct. 16, 2006); and *A Model of Strategic Human Capital Management*, [GAO-02-373SP](#) (Washington, D.C.: Mar. 15, 2002).

Officer to discuss the office's human capital planning efforts and analyzed related documentation provided by the office on steps completed, under way, or planned to address strategic human capital management activities discussed in our guidance.

To determine the extent to which DOD had implemented our prior recommendations, we identified 48 recommendations related to DOD's business systems modernization efforts that we made in our reports from 2005 to 2008 and summarized the implementation status of each. For those recommendations that had not been implemented after more than 4 years since we issued the associated report, we considered them closed and not implemented. We then focused on the 15 recommendations related to DOD's business systems modernization efforts that we made in our reports from 2009 to 2013. In reviewing these 15 recommendations, we obtained and analyzed documentation relative to corrective actions taken and planned. Documentation that we reviewed included DOD's 2012 vision for the BEA,⁷ the most recent version of DOD's BEA compliance guidance, and DOD's 2012 and 2013 investment management process guidance. Further, we reviewed documentation associated with changes to the Office of the Deputy Chief Management Officer's staffing levels, as well as the department's enterprise transition plans for fiscal years 2011, 2012, and 2013, and its fiscal year 2013 report to Congress.

We conducted this performance audit at DOD and military department offices from October 2012 to May 2013, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

⁷Department of Defense, *Same Mission, New Vision. The Future of the DOD Business Enterprise Architecture* (March 2012).

Appendix II: DOD's End-to-End Business Processes

The department's BEA focuses on documenting information associated with its 15 end-to-end business process areas. In particular, the department's Strategic Management Plan has identified the Hire-to-Retire and Procure-to-Pay business process areas as its priorities. According to the department, the process of documenting the needed architecture information also includes working to refine and streamline each of the associated end-to-end business processes.

Business process	Description
Acquire-to-Retire	Obtain, manage, and dispose of accountable and reportable property (capitalized and noncapitalized assets) through their entire life cycle.
Budget-to-Report	Plan, formulate, create, execute against, and report on the budget and business activities of the entity.
Concept-to-Product	Identify product needs, and plan and execute all necessary activities to bring a product from initial concept to full production.
Cost Management	Identify, collect, measure, accumulate, analyze, interpret, and communicate cost information to accomplish the many objectives associated with control, decision making, planning, and reporting.
Deployment-to-Redeployment/Retrograde	Plan, notify, deploy, sustain, recall, and reset tactical units to and from theaters of engagement.
Environmental Liabilities	Identify environmental cleanup, closure, or disposal issues that represent an environmental liability of the department, to develop cost estimates and expenditures related to the actions required to eliminate an identified environmental liability, and to report appropriate financial information about the environmental liability.
Hire-to-Retire	Plan for, hire, classify, develop, assign, track, account for, compensate, retain, and separate the persons needed to accomplish aspects of the DOD mission.
Market-to-Prospect	Establish marketing plans, identify target markets, plan and define marketing campaigns, execute marketing campaigns, and measure and evaluate the performance of marketing campaigns.
Order-to-Cash	Accept and process customer orders for services and/or inventory held for sale.
Plan-to-Stock	Plan, procure, produce, inventory, and stock materials used both in operations and maintenance as well as for sale.
Procure-to-Pay	Obtain goods and services.
Proposal-to-Reward	Life cycle of the grant process from the grantor perspective. It includes all the business functions necessary to plan, solicit, review, award, perform, monitor, and close out a grant.
Prospect-to-Order	Generate and sustain sales by pursuing qualified leads, employing effective sales techniques, efficient order processing, maintaining customer relationships and providing support functions to include service, personnel, and financial impacts.
Service Request-to-Resolution	Perform maintenance on materiel/assets requiring repair or complete rebuild of parts, assemblies, subassemblies, and end-items, including the manufacture of parts, modifications, testing, and reclamation as required. It also includes the process whereby buildings and other fixed facilities are maintained and renovated during their life cycle.
Service-to-Satisfaction	Determine service requirements, secure funding, contract with outside vendor, establish service, and measure customer satisfaction.

Source: GAO based on DOD documentation.

Appendix III: Status of Associated GAO Recommendations Made Since 2009

GAO report information and recommendation	Implemented		GAO assessment
	Yes	In Process	
GAO-09-586: DOD Business Systems Modernization: Recent Slowdown in Institutionalizing Key Management Controls Needs to be Addressed, May 18, 2009			
1. To ensure that DOD continues to implement the full range of institutional management controls needed to address its business systems modernization high-risk area, the Secretary of Defense should direct the Deputy Secretary of Defense, as chair of the Defense Business Systems Management Committee and as DOD's Chief Management Officer, to resolve the issues surrounding the roles, responsibilities, authorities, and relationships of the Deputy Chief Management Officer and the military department Chief Management Officers relative to the business enterprise architecture (BEA) and enterprise transition plan federation and business system investment management.		X	The department stated that it has a number of policy and guidance documents currently under development to help clarify the roles and responsibilities associated with development of the BEA and investment management. For example, the department's most recent investment management guidance specifies roles and responsibilities associated with managing portfolios of business systems. In addition, DOD has established a forum for discussing the development of the federated BEA and is currently working to establish a BEA Configuration Control Board charter, which is intended to document the roles and responsibilities for the review and approval of proposed BEA content. However, the department has yet to clarify in policy or guidance the roles, responsibilities, authorities, and relationships between the Deputy Chief Management Officer and military department Chief Management Officers relative to the BEA and enterprise transition plan federation.
2. To ensure that business system investment reviews and related certification and approval decisions, as well as annual budget submissions, are based on complete and accurate information, the Secretary of Defense should direct the appropriate DOD organizations to develop and implement plans for reconciling and validating the completeness and reliability of information in its Defense Information Technology Portfolio Repository (DITPR) and Select and Native Programming Data Input System—Information Technology system data repositories, and to include information on the status of these efforts in the department's fiscal year 2010 report in response to the act.		X	According to DOD, the department is fully committed to integrating the data in the system data repositories. DOD Chief Information Officer officials stated that a new portal that will provide an integrated view of information from its two portals will reach a limited operational capability in May 2013. However, DOD has yet to fully implement its plans and to complete the integration of the repositories and validate the completeness and reliability of the information.
GAO-10-663: Business Systems Modernization: Scope and Content of DOD's Congressional Report and Executive Oversight of Investments Need to Improve, May 24, 2010			
1. To ensure that Investment Review Board (IRB) certification actions are better informed and justified, the Secretary should direct the Deputy Secretary to ensure that DOD guidance be revised to include provisions that require IRB certification submissions disclose program weaknesses raised	X		The enterprise transition plans for fiscal year 2011 and 2012 and system dashboards reflected related GAO reports. In addition, the department's fiscal year 2014 investment management guidance issued by the Office of the Deputy Chief Management Officer now requires the precertification authorities to include any open GAO recommendations for

**Appendix III: Status of Associated GAO
Recommendations Made Since 2009**

GAO report information and recommendation	Implemented		GAO assessment
	Yes	In Process	
by GAO and the status of actions to address our recommendations to correct the weaknesses.			program weaknesses as well as a status update on addressing GAO recommendations as part of the certification requests.
2. To facilitate congressional oversight and promote departmental accountability, the Secretary of Defense should direct the Deputy Secretary of Defense, as the chair of the Defense Business Systems Management Committee, to ensure that the scope and content of future DOD annual reports to Congress on compliance with section 332 of the National Defense Authorization Act (NDAA) be expanded to include (1) cost, capability, and benefit performance measures for each business system modernization investment and actual performance against these measures; and (2) all certification actions, as defined in DOD guidance, which were taken in the previous year by the department on its business system modernization investments.		X	While the department's fiscal year 2013 report to Congress included a list of certification actions, it did not include cost, capability, and benefit performance measures for each business system investment and actual performance against these measures. According to officials from the Office of the Deputy Chief Management Officer, the department elected not to seek measures data for fiscal year 2012 given the significant changes as a result of the NDAA, but it plans to provide measurement data for the fiscal year 2014 cycle.
GAO-11-684: Department of Defense: Further Actions Needed to Institutionalize Key Business System Modernization Management Controls, June 29, 2011			
1. To address the uncertainty and pending decisions surrounding the roles and responsibilities of key organizations, the Secretary of Defense should expeditiously complete the implementation of the announced transfer of functions of the Business Transformation Agency and the Office of the Assistant Secretary of Defense for Networks and Information Integration/Department of Defense Chief Information Officer and provide specificity as to when and where these functions will be transferred.		X	In October 2011, the department formally disestablished the Business Transformation Agency, completing the transfer of its various responsibilities to other DOD entities, including the Office of the Deputy Chief Management Officer. In addition, in January 2012, DOD announced the disestablishment of the Assistant Secretary of Defense for Networks and Information Integration and the transfer of its various responsibilities to other DOD entities, including the DOD Chief Information Officer and Under Secretary of Defense for Acquisition, Technology, and Logistics.
GAO-11-902: Organizational Transformation: Military Departments Can Improve Their Enterprise Architecture Programs, Sep 26, 2011a			
1. To ensure that the military departments establish commitments to fully develop and effectively manage their enterprise architectures, the Secretaries of the Air Force, Army, and Navy each should expeditiously provide to the congressional defense committees a plan that identifies milestones for their respective department's full satisfaction of all of our Enterprise Architecture		X	While Department of the Army officials stated that the department plans to address all of the framework elements, the department has yet to develop a plan for doing so.

**Appendix III: Status of Associated GAO
Recommendations Made Since 2009**

GAO report information and recommendation	Implemented		GAO assessment
	Yes	In Process	
Management Maturity Framework elements. In the event that a military department does not intend to fully satisfy all elements of our framework, the plan should include a rationale for why the department deems any such element(s) to be not applicable. (ARMY)			
2. To ensure that the military departments establish commitments to fully develop and effectively manage their enterprise architectures, the Secretaries of the Air Force, Army, and Navy each should expeditiously provide to the congressional defense committees a plan that identifies milestones for their respective department's full satisfaction of all of our Enterprise Architecture Management Maturity Framework elements. In the event that a military department does not intend to fully satisfy all elements of our framework, the plan should include a rationale for why the department deems any such element(s) to be not applicable. (NAVY)		X	The Department of the Navy provided a memorandum describing its proposed approach for addressing the elements of the framework that it considers applicable, but this memorandum does not describe the department's milestones for addressing the elements and the department did not provide evidence to support that the memorandum has been delivered to the congressional defense committees.
3. To ensure that the military departments establish commitments to fully develop and effectively manage their enterprise architectures, the Secretaries of the Air Force, Army, and Navy each should expeditiously provide to the congressional defense committees a plan that identifies milestones for their respective department's full satisfaction of all of our Enterprise Architecture Management Maturity Framework elements. In the event that a military department does not intend to fully satisfy all elements of our framework, the plan should include a rationale for why the department deems any such element(s) to be not applicable. (AIR FORCE)		X	DOD officials reported that the Air Force Enterprise Architecture Management Plan, scheduled for issuance in July 2013, will identify milestones for satisfying a number of the elements described in our Enterprise Architecture Management Maturity Framework.
GAO-12-241: Information Technology: Departments of Defense and Energy Need to Address Potentially Duplicative Investments, Feb 17, 2012			
1. To better ensure agencies avoid investing in duplicative investments, the Secretary of Defense should direct the Chief Information Officer to correct the miscategorizations for the DOD investments we identified and ensure that investments are correctly categorized in agency submissions.	X		DOD has taken steps to help ensure accurate categorizations of its IT investments. Specifically, it has corrected miscategorized investments and included the corrections in its budget submissions.
2. To better ensure agencies avoid investing in duplicative investments, the Secretary of Defense should direct the Chief Information Officer to utilize existing transparency mechanisms, such as the IT		X	According to DOD officials, in October 2012, DOD held an IT portfolio review in which it evaluated its IT investments for fiscal year 2013. In addition, as discussed in this report, it also began to implement a new IRB process for its business

**Appendix III: Status of Associated GAO
Recommendations Made Since 2009**

GAO report information and recommendation	Implemented		GAO assessment
	Yes	In Process	
Dashboard, to report on the results of the department's efforts to identify and eliminate, where appropriate, each potentially duplicative investment we have identified, as well as any other duplicative investments.			system investments, which is to, among other things, reduce duplication and improve business effectiveness. However, DOD has not yet reported on whether its efforts have resulted in the identification and elimination of duplicative investments.
GAO-12-685: DOD Business Systems Modernization: Governance Mechanisms for Implementing Management Controls Need to Be Improved, Jun 1, 2012			
1. To ensure that DOD continues to implement the full range of institutional management controls needed to address its business systems modernization high-risk area, the Secretary of Defense should ensure that the Deputy Secretary of Defense, as the department's Chief Management Officer, establish a policy that clarifies the roles, responsibilities, and relationships among the Chief Management Officer, Deputy Chief Management Officer, DOD, and military department chief information officers, principal staff assistants, military department chief management officers, and the heads of the military departments and defense agencies, associated with the development of a federated BEA. Among other things, the policy should address the development and implementation of an overarching taxonomy and associated ontologies to help ensure that each of the respective portions of the architecture will be properly linked and aligned. In addition, the policy should address alignment and coordination of business process areas, military department and defense agency activities associated with developing and implementing each of the various components of the BEA, and relationships among these entities.		X	The department stated that it has a number of policy and guidance documents currently under development to help clarify the roles and responsibilities associated with development of the BEA and enterprise architecture in general across DOD. For example, DOD has established a forum for discussing the development of the federated BEA and is currently working to establish a BEA Configuration Control Board charter, which is intended to document the roles and responsibilities for the review and approval of proposed BEA content. However, DOD has yet to issue these policy and guidance documents.
2. To ensure that annual budget submissions are based on complete and accurate information, the Secretary of Defense should direct the appropriate DOD organizations to establish a deadline by which it intends to complete the integration of the repositories and validate the completeness and reliability of information.		X	According to DOD, the department is fully committed to integrating the data in the system data repositories. DOD Chief Information Officer officials stated that a new portal that will provide an integrated view of information from its two portals will reach a limited operational capability in May 2013. However, DOD has yet to establish a deadline by which it intends to complete the integration of the repositories and validate the completeness and reliability of information.
3. To facilitate congressional oversight and promote departmental accountability, the Secretary of Defense should ensure that the Deputy Secretary of Defense, as the department's Chief Management Officer, direct the Deputy Chief Management		X	The Office of the Deputy Chief Management Officer stated that measures such as the number of systems that have undergone material process changes, the number of interfaces eliminated, and the status of end-to-end business process reengineering efforts were not included in its annual

**Appendix III: Status of Associated GAO
Recommendations Made Since 2009**

GAO report information and recommendation	Implemented		GAO assessment
	Yes	In Process	
Officer to include in DOD's annual report to Congress on compliance with 10 U.S.C. § 2222, the results of the department's business process reengineering efforts. Among other things, the results should include the department's determination of the number of systems that have undergone material process changes, the number of interfaces eliminated as part of these efforts (i.e., by program, by name), and the status of its end-to-end business process reengineering efforts.			report to Congress because the focus for this year was on establishing baseline portfolios. The department took steps to update its business process reengineering guidance in September 2012 and has begun to validate business process reengineering assertions on selected investments. However, the department has yet to identify and report the results of the department's business process reengineering efforts.
4. To facilitate congressional oversight and promote departmental accountability, the Secretary of Defense should ensure that the Deputy Secretary of Defense, as the department's Chief Management Officer, direct the Deputy Chief Management Officer to include in DOD's annual report to Congress on compliance with 10 U.S.C. § 2222, an update on the Office of the Deputy Chief Management Officer's progress toward filling staff positions and the impact of any unfilled positions on the ability of the office to conduct its work.		X	The Office of the Deputy Chief Management Officer provided an update to GAO on the numbers of positions filled and open. However, status on staffing and the impact of unfilled positions on the ability of the office to conduct its work have not yet been included in the annual report to Congress.
GAO-12-791: Organizational Transformation: Enterprise Architecture Value Needs to Be Measured and Reported, Sep 26, 2012			
1. To enhance federal agencies' ability to realize enterprise architecture benefits, the Secretary of Defense should periodically measure and report enterprise architecture outcomes and benefits to top agency officials (i.e., executives with authority to commit resources or make changes to the program) and to the Office of Management and Budget (OMB).		X	According to DOD, the Defense Business Council is currently chartering the BEA Configuration Control Board and will require all BEA changes to be directly traceable to a measureable business outcome. However, the department has yet to measure and report enterprise architecture outcomes and benefits consistent with our recommendation or report the results of outcome measurements to OMB. In addition, the department did not demonstrate that its military departments or its corporate enterprise architecture efforts are periodically measuring and reporting related outcomes and benefits to top agency officials and to OMB. OMB has requested agencies to report enterprise architecture outcomes in reports that are due by May 15, 2013.

Source: GAO analysis of DOD and OMB information.

^aGAO-11-902 focused on the military departments' corporate architectures.

Appendix IV: Comments from the Department of Defense



DEPUTY CHIEF MANAGEMENT OFFICER
9010 DEFENSE PENTAGON
WASHINGTON, DC 20301-9010

MAY 10 2013

Ms. Valerie Melvin
Director, Information Management and Technology Resources Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Melvin,

This is the Department of Defense (DoD) response to the Government Accountability Office (GAO) draft report GAO-13-557, "DOD BUSINESS SYSTEMS MODERNIZATION: Further Actions Needed to Address Challenges and Improve Accountability," dated May 1, 2013, (GAO Code 310993). While there are a few recommendations with which the Department concurs, on the whole we disagree with many of the assertions put forward by GAO and the lack of balance expressed in the draft report.

Every day the Department successfully operates one of the most complex and diverse business enterprises in the world, and DoD leaders routinely take deliberate actions to improve how the Department conducts its business. The Department has implemented a business management model that improves services to the warfighter by aligning the Department's business strategies and desired outcomes with information technology investments organized as portfolios. The draft report demonstrates a lack of understanding of this new investment management process and the significant improvements it has produced. During Fiscal Year 2012, we took full advantage of the mandate in title 10 United States Code section 2222 to revamp business mission area governance and establish an Integrated Business Framework. DoD business leaders now use this framework to vet business strategy, link portfolio objectives to enterprise vision, mission, goals and objectives, and ensure business process reengineering and business enterprise architecture activities are aligned to end-to-end processes to make informed business system investment and certification decisions. Rather than the slow improvement portrayed in the draft report, these changes have resulted in significant progress.

While our business systems modernization efforts will continue to evolve, it is important for the Department and Congress not to lose sight of the bigger picture of what we endeavor to achieve by focusing only on the set of challenges cited by GAO in the draft report. DoD's Business Mission Area is a complex, interconnected environment that is unprecedented in size and critical to the Department's overall national security mission. Rather than attempt to institute a one-size-fits-all approach across every aspect of the DoD business enterprise, the Department will continue to prioritize actions and activities that produce the best return on investment. Implementing GAO's recommendations to institute a 100-percent compliance verification regime without regard to the lifecycle phase of a program would divert scarce resources for tasks that provide no benefit, for example, reengineering a system targeted to be retired. To separately track milestone and performance data for investments as part of the



investment review process, as GAO also suggests, would be duplicative of the Department's robust, existing controls that are part of our Defense Acquisition System.

Finally, there is significant focus in the report on the Department's failure to implement recommendations that are almost a decade old and that have been overtaken by more recent events. We have made progress over the years in implementing those recommendations with which we concurred; however, the Department's business modernization efforts have evolved significantly since 2005. In March, the Department issued revised guidance for FY2014 funds certification that incorporates lessons learned during our first year using the new process. Going forward, we will continue to mature and refine our efforts to rationalize the Department's business system investments to eliminate unnecessary redundant systems, as well as identifying both long range improvement opportunities and near-term steps to advance current business practices.

The Department appreciates the opportunity to respond to your draft report. We look forward to your continued cooperation and dialog toward our common goal of improving business systems modernization throughout the Department of Defense. Should you have any questions, please contact Mr. Thomas Cowley, 703-692-8170, thomas.cowley@osd.mil.

Sincerely,



Elizabeth A. McGrath

Enclosures:
As stated

**GAO DRAFT REPORT DATED APRIL 30, 2013
GAO-13-557 (GAO CODE 310993)**

**“DOD BUSINESS SYSTEMS MODERNIZATION: FURTHER ACTIONS
NEEDED TO ADDRESS CHALLENGES AND IMPROVE ACCOUNTABILITY”**

**DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATIONS**

RECOMMENDATION 1: The Government Accountability Office (GAO) recommends that the Secretary of Defense direct the Deputy Chief Management Officer (DCMO) to define by when and how the department plans to develop an architecture that would extend to all defense components and include, among other things, (a) information about the specific business systems that support Business Enterprise Architecture (BEA) business activities and related system functions; (b) business capabilities for the Hire-to-Retire and Procure-to-Pay business processes; (c) sufficient information about business activities to allow for more effective identification of potential overlap and duplication.

DoD RESPONSE: Partially concur. The Department of Defense (DoD) agrees that plans for continuing to mature the Federated BEA should be completed. It should be noted that the Department has already taken the necessary initial steps to extend the BEA to all Defense Components. These steps have been institutionalized via the Integrated Business Framework which was implemented during calendar year 2012. The framework links together the development of functional business strategies, the identification of associated BEA changes, and the submission of Organizational Execution Plans (OEPs) from the DoD Components. Information contained in the Component-developed OEPs constitutes key elements of the Component's portion of the Federated BEA. In particular, the OEPs and associated authoritative data sources provide the relationship and linkage between each Component's portfolio of proposed investments and key elements of the corporate portion of the Federated BEA.

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense direct the Deputy Chief Management Officer to define by when and how the enterprise transition plan will include, among other things, (a) milestones, performance measures, and funding plans for all business systems expected to be part of the target architecture and each system's risks or challenges to integration; (b) time-phased end dates associated with terminating legacy systems in phases; (c) a listing of legacy systems that will be a part of the target defense business systems computing environment and a strategy for making modifications to legacy systems that will be needed to ensure that they comply with the defense BEA, including time-phased milestones, performance measures, and financial resource needs and (d) information about how systems are to be sequenced according to, among other things, dependencies among investments.

DoD RESPONSE: Partially concur. The Department is meeting the requirements of section 2222 as follows: (a) milestones, performance measures, and funding plans for all business systems expected to be part of the target architecture and each system's risks or challenges to integration. This information is explained in the presentations that are provided to the Defense Business Council (DBC); (b) time-phased end dates associated with terminating legacy systems in phases. This requirement is being met by the establishment of a category of "legacy" systems that are to sunset within the next 36 months along with an explanation of what if any systems will continue the business need; (c) a listing of systems that will be a part of the target defense business systems computing environment and a strategy for making modifications to systems that will be needed to ensure that they comply with the Defense BEA, including time-phased milestones, performance measures, and financial resource needs. This requirement is being met by the precertification process and through the Defense acquisition system milestones, performance measures, etc.; d) Information about how systems are to be sequenced according to, among other things, dependencies among investments. This information is captured in presentations and supporting materials provided to the DBC.

The Department is using core attributes of the GAO Information Technology Investment Management (ITIM) framework and the Capital Planning and Investment Control (CPIC) process to manage DoD's budget and acquisition of defense business systems. DoD has developed a complete investment portfolio, established selection criteria, and developed an Integrated Business Framework that continues to evolve for selecting, controlling and evaluating investments. The Department built its investment foundation by establishing organizational priorities through the Strategic Management Plan and aligning Functional Strategies that are then executed by DoD Components through their OEPs. DoD is focusing on delivering efficient, effective, and agile business operations that support and enable the warfighter; achieving specific program business outcomes; using criteria related to return on investment and quantitative and qualitative criteria for comparing and prioritizing alternative defense business systems programs; realizing enterprise architecture-driven performance improvements and outcomes (e.g., improving mission performance; saving money and avoiding costs; enhancing the quality of DoD investment portfolios; improving the quality, availability, and sharing of data and information; and increasing the transparency of DoD operations) to complement existing and enduring budget and acquisition processes within DoD.

The Defense Acquisition System is the core process used by the Department to manage defense acquisitions to include the procurement of defense business systems. Likewise, the Department's Planning, Programming, Budgeting and Execution (PPBE) process is the principal process for managing the DoD budget. Taken together, the Department has a much greater visibility into the business enterprise than ever before. The Department is taking a data-driven approach to manage defense business systems as portfolios of investments within the Integrated Business Framework. It is our goal to leverage and aggregate data from authoritative data sources and tools used by the PPBE, acquisition and funds certification processes to track and manage the overall performance of portfolios.

The Department considers any Defense Business System (DBS) with a sunset date within 36 months of certification as legacy and development and modernization funds for these legacy systems have been removed from the budget. All other defense business systems are considered core and therefore must demonstrate compliance to the BEA while ensuring appropriate Business Process Re-Engineering (BPR). Modernization to individual systems will be tracked and monitored by the Defense Acquisition System; however, the requirement driving the modernization will be validated by the Defense Business Council (DBC) in accordance with Chairman of the Joint Chiefs of Staff Instruction 3170.01H, "Joint Capabilities Integration and Development System," and Directive-Type Memorandum (DTM) 11-009, "Acquisition Policy for Defense Business Systems," to ensure strategic alignment with the Strategic Management Plan, Functional Strategies and the BEA. Further, the DBC will continue to track the performance of business system portfolios as OEPs are presented to the DBC for certification.

RECOMMENDATION 3: The GAO recommends that the Secretary of Defense direct the Deputy Chief Management Officer to ensure that the functional strategies include all of the critical elements identified in DOD investment management guidance, including performance measures to determine progress toward achieving the goals that incorporate all of the attributes called for in the department's guidance.

DoD RESPONSE: Concur.

RECOMMENDATION 4: The GAO recommends that the Secretary of Defense direct the Deputy Chief Management Officer to select and control its mix of investments in a manner that best supports mission needs by (a) documenting a process for evaluating portfolio performance that includes the use of actual versus expected performance data and predetermined thresholds; (b) ensuring that portfolio assessments are conducted in key areas identified in our IT investment management framework: benefits attained; current schedule; accuracy of project reporting; and risks that have been mitigated, eliminated, or accepted to date; and (c) ensuring that the documents provided to the Defense Business Council as part of the investment management process include critical information for conducting all assessments.

DoD RESPONSE: Non-concur. This recommendation does not recognize the significant improvements the Department made in 2012 to fundamentally change how it reviews its defense business systems. The FY2012 NDAA substantially changed the scope and governance approach for reviewing and certifying defense business systems by creating a single Investment Review Board (IRB) to review all business systems planning to spend more than \$1M over the period of the Future Years Defense Program (FYDP) regardless of the funding source. In response to the NDAA, the Department created the Integrated Business Framework, a paradigm shift that aligns business strategies to business systems IT spending vice simply looking at IT costs.

Regarding the specific recommendations:

- (a) **Process Documentation:** The Department created initial documentation aligned to the Integrated Business Framework in June 2012. Section 3.3 of the Defense Business System Investment Review Guidance defines the review criteria used by the DBC to evaluate and certify business systems via OEPs for certification. Based on lessons learned in 2012, we then updated guidance to further strengthen and improve the process. As noted in the draft report, the Functional Strategies that were updated in 2013 include improved business goals and supporting measures that will be used to evaluate business system certification requests when they are presented to the DBC later this year. It is our intent, unless a business system is required for critical operational support, to withhold certification for business system investments that are not aligned to the Functional Strategies. Likewise, it is not the intent of the DBC (which serves as the Department's IRB) to review acquisition issues associated with individual business systems, as that function is performed by the Defense Acquisition System.
- (b) **Portfolio assessments in accordance with GAO IT investment management framework:** The Department is leveraging key components of the GAO ITIM Framework to evaluate portfolios of investments presented to the DBC. However the IRB process will complement the Department's acquisition system rather than duplicate it. The Defense Acquisition System is the core process used by the Department to manage defense acquisitions, to include the procurement of defense business systems, and it already contains significant elements of the GAO ITIM framework.
- (c) **DBC documentation for conducting assessments:** This aspect of the recommendation does not take into account that the information derived for strategic alignment, cost, utility and compliance is already given to the DBC and incorporates objective information derived from authoritative documents and data sources. Additionally, the documentation is supported by input from the Functional Area Owners and Subject Matter Experts.

RECOMMENDATION 5: The GAO recommends that the Secretary of Defense direct the Deputy Chief Management Officer to implement and use the BEA and business process reengineering compliance assessments more effectively to support organizational transformation efforts by (a) disclosing relevant information about known weaknesses, such as BEA and business process reengineering compliance weaknesses for systems that were not certified or certified with qualifications in annual reports to Congress; (b) establishing milestones by which selected validations of BEA compliance assertions are to be completed; and (c) ensuring that appropriate business process reengineering assertions have been completed on all investments submitted for the fiscal year 2014 certification reviews prior to the certification of funds.

DoD RESPONSE: Partially concur. DoD agrees that BEA and BPR compliance assessments be used to support organizational transformation efforts by disclosing relevant information about known weaknesses and that milestones should be identified for completing selected validations. However, DoD does not agree with the GAO recommendation to ensure that appropriate business process reengineering assertions be completed on all investments submitted for the fiscal year 2014 certification reviews prior to the certification of funds. Requiring BPR for systems scheduled for retirement or for systems solely in sustainment would divert scarce resources for tasks that would provide no benefit. Therefore our transition plan for those systems is to sunset the program within 36 months (legacy) and, for systems solely in sustainment, determine that that it is not appropriate to conduct further BPR. The revised BPR Assessment Guidance and memorandum of September 28, 2012 documents the DCMO BPR Assessment plan which includes providing the Department a BPR Standard, outlining a plan of action for executing a validation of a sampling of DBS programs in which the Pre-Certification Authority (PCA) asserted BPR compliance on their FY2013 Organizational Execution Plan (OEP). The revised BPR Assessment Guidance memorandum also required the PCA to develop a BPR Plan of Action for all DBS programs which did not assert BPR compliant in FY2013 to become BPR compliant; this requirement was also documented in the Investment Decision Memorandum (IDM) for each OEP as a condition to the FY2013 certification of funds. The results of the Office of the DCMO BPR Assessment validations and the PCA response to the IDM/BPR Compliance Plan of Action will be reported to the DBC this summer.

The DoD is an operational organization with emerging and unforeseen operational needs, therefore the DBC must retain and use, when appropriate, the conditional certification authority as it relates to the BPR compliance requirement. This authority has been used by the DoD IRBs since the inception of the certification review process in 2005 and allows the DBC to levy a condition on the DBS program to develop a BPR Plan of Action by a specified date. It is the expectation of the DBC that all BPR compliance assertions be true and verifiable; having the ability to condition the DBS program with a BPR Plan of Action supports the DBC's ability to go back and potentially assess the BPR effort based on their BPR Plan of Action.

RECOMMENDATION 6: The GAO recommends that the Secretary of Defense direct the Deputy Chief Management Officer to develop a skills inventory, needs assessment, gap analysis, and plan to address identified gaps as part of a strategic approach to human capital planning.

DoD RESPONSE: Non-concur. The Office of the DCMO is a relatively small component of the Office of the Secretary of Defense. The proposed direction could not be accomplished given current resources (both personnel and funding) and is a level of activity normally designed for an entire agency. The draft report also draws conclusions from statements by Office of the DCMO officials as to the impact of the Office of the DCMO's staffing levels that are not supported by the findings. The Office of the DCMO is constantly working to improve its human capital assets in ways that are appropriate to

an office with less than 100 government employees. As part of the functional work assessment and reorganization GAO referenced in the report, the Office of the DCMO thoroughly considered the skills of its employees, sought to optimally align them organizationally, and has used hiring actions to bring additional skill sets onboard that filled identified gaps. The report attributes consequences of the Office of the DCMO's perceived human capital weaknesses far beyond what is supported by the GAO's findings. While the Office of the DCMO sets policy, performs oversight activities, and develops important products, it relies on content, input, and implementation from throughout the DoD Components to move forward. Weaknesses identified by GAO in the Department's federated architecture, investment management data, and transition plan content are Departmental weaknesses and are not simply due to the staffing levels of the Office of the DCMO.

RECOMMENDATION 7: The GAO recommends that the Secretary of Defense direct the appropriate authority to ensure that complete documentation, such as root cause analyses, assessments of existing interfaces for reuse opportunities, and performance metrics related to the reengineering efforts is provided as part of the fiscal year 2014 certification and approval process for the IPPS-A, IPPS-N, AF-IPPS, and iEHR investments.

DoD RESPONSE: Concur. The revised BPR Assessment Guidance of September 28, 2012 specifically addressed root cause analyses in question 5, assessment of interfaces in question 10, and performance measures in questions 4 and 11 with the expectation that objective evidence is available that supports the responses to questions 4, 5, 10, and 11. It is the expectation of the DBC that all PCA BPR compliance assertions are made using the BPR Assessment Form with objective evidence which should yield a more accurate evaluation and provide a more tangible outcome for all DBS programs.

RECOMMENDATION 8: The GAO recommends that the Secretary of Defense direct the appropriate authority to determine whether funds were properly obligated under 10 U.S.C. §2222(a)-(b) for systems for which appropriate business process reengineering assertions were not completed.

DoD RESPONSE: Non-concur. The Department believes that it has already met the conditions of 10 U.S.C. §2222 through reviews by the Pre-Certification authorities and the DBC. As an example, the Department considers any Defense Business System (DBS) with a sunset date within 36 months of certification as legacy so development and modernization funds for these legacy systems have been removed from the budget. The transition plan for these legacy systems is to sunset the system as opposed to bringing the system into compliance with the BEA. This action is in the best interest of the department and conserves resources. The requirement to sunset the DBS is included in all relevant documentation generated, is approved by the DBC and the DBSMC and therefore has been reviewed for compliance.

All other defense business systems are considered core and therefore must demonstrate compliance or a transition plan for compliance to the BEA while ensuring appropriate Business Process Re-Engineering (BPR). Modernization to individual systems will be tracked and monitored by the Defense Acquisition System; however, the requirement driving the modernization will be validated by the Defense Business Council (DBC) in accordance with Chairman of the Joint Chiefs of Staff Instruction 3170.01H, "Joint Capabilities Integration and Development System," and Directive-Type Memorandum (DTM) 11-009, "Acquisition Policy for Defense Business Systems," to ensure strategic alignment with the Strategic Management Plan, Functional Strategies and the BEA. Further, the DBC will continue to track the performance of business system portfolios as OEPs are presented to the DBC for certification.

Further, to strengthen BPR assertions, the Department issued the revised BPR Assessment Guidance memorandum of September 28, 2012, which specifically addressed the requirement for the PCA to develop a BPR Plan of Action for all DBS programs that did not assert BPR compliance in FY2013 to become BPR compliant; this requirement was also documented in the IDM for each OEP as a condition to the FY2013 certification of funds. The results of the Office of the DCMO BPR Assessment validations and the PCA response to the IDM/BPR compliance Plan of Action will be reported to the DBC this summer. It is the expectation of the DBC that a larger number of DBS programs will assert BPR compliance in FY2014 (prior to the fund certification requests, in either an OEP or out of cycle). As noted, the DBC does not require BPR for systems scheduled for retirement. For systems solely in sustainment, a determination is made that further BPR is not required as it would divert scarce resources for tasks that would provide no benefit.

Appendix V: GAO Contact and Staff Acknowledgments

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Staff Acknowledgments

In addition to the contact named above, individuals making contributions to this report include Neelaxi Lakhmani (Assistant Director), Debra Conner, Nancy Glover, Michael Holland, Anh Le, Jennifer Stavros-Turner, and Donald Sebers.

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